

Cairo University
Faculty of Medicine
Department of Anatomy

Course specifications

Course title:

1st year Anatomy
2004-2005

Allocated marks: 250 marks
Course duration: one academic year
Total teaching hours: 226 hrs. Lectures:100 hrs, practical small groups: 126 hrs.
Course director: Prof. Dr. Nabila Adieb
Head of Anatomy Department
Teaching staff: 32 professors, 5 assistant professors, 8 lecturers and
assistant lecturers / Demonstrators

I. AIM OF THE COURSE:

- To provide a core body of scientific knowledge concerning the normal structure of the human body at the level of organ and organ system with the study of the normal growth and development relevant to anatomical topics.
- To provide appropriate ethical and professional education necessary for dealing with cadavers.
- To correlate anatomical facts with their clinical applications.

II. INTENDED LEARNING OUTCOMES:

II-A: KNOWLEDGE and UNDERSTANDING:

By the end of the course, students should be able to:

1. Describe the basic principles of structure of the different tissues, organs and systems of the human body.
2. Describe the surface landmarks of the underlying bones, muscles and tendons, and internal structures (main nerves, vessels and viscera).
3. Explain the different stages of human development, evolution and growth.
4. Outline major clinical applications of anatomical facts.

II-B: SKILLS:

By the end of the course, students should be able to:

- 5- Apply the anatomical facts while examining the living subject in order to reach a proper diagnosis.
6. Identify the different surface markings and determine the position or course of internal structures.
7. Identify the different internal structures in cadavers and preserved specimens.

8. Interpret the normal anatomical structures on radiographs and ultrasonography, C.T. scan and nuclear magnetic resonance images.
9. Interpret some clinical findings in relation to developmental basis.

II-C: Attitudes:

By the end of the course, students should be able to:

10. Maintain honesty and integrity in all interactions with teachers, colleagues, patients and others with whom physicians must interact in their professional lives.
11. Value the ethics and respect to all individuals inside and outside the dissecting room and pay a good deal of respect to the cadavers.
12. Recognize the scope and limits of their role as students as well as the necessity to seek and apply collaboration with other workers.
13. Be responsible towards work.
14. Maintain a professional image concerning behaviour, dress and speech.

III. COURSE CONTENTS:

III-A: TOPICS:

Topic	total hours %	No of hrs	
		Total Lectures	Practical small groups
1 Biology	7%	14	
2 Upper limb	34%	28	42
3 Lower limb	29%	24	36
4 Thorax	22%	18	27
5 General Embryology	8%	16	

IV. TEACHING & LEARNING METHODS:

IV-A: Teaching methods:

1. Lectures for acquisition of knowledge: Two large groups, 5 times/week.
2. Practical classes: including practical dissection, demonstration in the dissecting room, museum jars and radiological films.
3. Tutorial classes: two hours/week before dissecting a major region and a brief discussion by the end of each practical session.

IV-B: Teaching plan:**- Lectures:****- Practical:****IV-C: METHODS FOR DISABLED STUDENTS:**

Not present

V- Teaching and learning facilities:

- 1- Dissecting room including cadavers, bones, plastic models and plastinated specimens.
- 2- Museum specimens and x-ray and CT scans.
- 3- Visual aids.

VI- STUDENT ASSESSMENT**A - ATTENDANCE CRITERIA:**

The minimal acceptable attendance is 75% ; students who fail to attend that percentage of activities will not be allowed to sit for final written examination.

B- ASSESSMENT TOOLS:

TOOL	PURPOSE
Written examination (3 hours)	Assessment of knowledge and understanding
Oral examination (10-15 minute)	Assessment of knowledge and understanding.
Practical examinations (contain two minutes for each station)	Assessment of identification.
Practical book	Assessment of practical activities, MCQ questions and drawings.

VI. C: ASSESSMENT SCHEDULE:

- MIDYEAR EXAMINATION: Held usually at January , students should submit their practical books to sit for the examination.
- FINAL EXAMINATION: at the end of the academic year for all students.

VI-D: GRADING SYSTEM:

Examination	Marks allocated
Mid Year Examination written and practical	50
Final examination	
-Written	125
-Oral	30
-Practical	45
Total	250

- The minimum passing score is 150 marks (60%).
- Passing grades are: Excellent 85%-100% or more, VERY GOOD 75%-84%
GOOD 65%-74% and FAIR 60%-64%.

VI-E: PRACTICAL BOOK:

Practical book: must be completed during the practical classes of academic year.

VII- Examination descriptions

Mid year exam: A 2-hours written exam and a practical exam.

	Examination	Description	Marks
Mid year (50 marks)	Written	6 short essay & question each 5 marks (5x6=30)	30 marks
	Practical	10 stations (one mark each)	10 marks
	Practical book		10 marks

Final exam:

- A) Written 3-hours exam
- B) Practical exam (60 mins. Duration) fresh specimens, bones and X-ray and CT scans
- C) Oral exam 10 -15 mins
- ♦ 2 committees each 15 marks

2- **Examination:**

Final exam (200 marks)	Written	9 essay question including UL, LL, thorax, embryology MCQ = 30 marks Problem solving & applied anatomy 5 marks	Total 125 marks
	Practical examination	Including: -bones -soft tissues -imaging anatomy	45 marks
	Oral	2 committees internal and external examiners	2x15 =30 marks
TOTAL			250 marks

VII- List of references:

1- Course notes: Book authorized by department.

- 2- Essential Books:
- a) Cunningham's anatomy
 - b) Gray's anatomy.
 - c) National books

Cairo University
Faculty of Medicine
Medical Physiology Department

Course specifications

Course title: **Medical Physiology**
1st year of M.B.& B.Ch. program

Allocated marks: 250 marks .

Course duration: 26 weeks of teaching with a midyear and a final end of year exam.

Total teaching hours: 208 hrs .

Course director: Prof. Dr. Mohamed Hassan Aly : Head of the department .

Teaching staff: 23 Professors, 8 Ass.Prof. , 8 lecturers, 10 Ass. Lecturers & demonstrators.

I. AIM OF THE COURSE :

The aims of this course are to enable students to :

1. acquire an appropriate functional background of cells, tissues, organs & systems .
2. integrate physiological data & mechanisms with the ongoing basic sciences : anatomy , histology & biochemistry and clinical applications .
3. follow the rapidly changing and inflating details about molecular biology & genetics .
4. explore in detail the functions of the autonomic , the neuromuscular , the respiratory and the cardiovascular systems as well as their integration to achieve homeostasis .
5. develop the basic scientific research skills as well as effective communication and team work attitudes.

II. INTENDED LEARNING OUTCOMES:

II-1: KNOWLEDGE and UNDERSTANDING:

By the end of the course, students should be able to:

1. describe the cellular functions at the organelle and molecular level .
2. describe & explain the functions of the nerve cell the nerve and muscle fiber grossly and at the molecular level.
3. describe & explain the functions of the autonomic nervous system , different components of blood, the respiratory and cardiovascular systems both grossly and at the molecular level.
4. describe some biophysical laws and their relation to physiology .

II-2: PRACTICAL SKILLS:

By the end of the course, students should be able to:

1. perform hematological tests : estimation of blood Hb, bleeding & clotting times , determination of the hematocrite value , the bleeding & clotting times and blood groups .
2. perform the most important respiratory function tests .
3. perform the measurement of the arterial blood pressure .
4. manipulate a stethoscope for hearing heart and respiratory sounds .
5. record and read an electrocardiogram .
6. present physiological scientific data in a graphical form .

II-3: INTELLECTUAL SKILLS:

By the end of the course, students should be able to:

1. interpret the most important physiological laboratory results (blood, respiratory, neuromuscular) , to distinguish a physiological from a pathological condition .
2. comment, on some clinical parameters such as : ABP , ECG , nerve conduction velocity & pulmonary functions for a normal individual.
3. integrate physiology with other basic and clinical sciences .

II-4 : General SKILLS and attitudes :

By the end of the course, students should be able to:

1. work separately or in a team to research and prepare a scientific topic.
2. present clearly and effectively a scientific topic in a tutorial, a staff meeting or the yearly scientific day.
3. present physiological data in a graphical form .

III. COURSE CONTENTS:**III-1: TOPICS:**

Method used	Topic	Time allocated
Theoretical	I - Introduction to human physiology . <ul style="list-style-type: none"> ▪ Body compartments & body fluids & homeostasis . ▪ The cell membrane : functions and transport . ▪ Intercellular communication & control systems . 	3hrs *
Theoretical Demonstration	II – Autonomic nervous system . <ul style="list-style-type: none"> ▪ Functional organization of autonomic outflow . ▪ Chemical transmission . 	10hrs * 3hrs
Theoretical Demonstration Demonstration	III – Excitable tissues . <ul style="list-style-type: none"> ▪ Membrane potentials . ▪ Nerve action potential . ▪ Skeletal muscle contraction & and its properties . ▪ Neuromuscular transmission . ▪ Plain musdes , electrical & mechanical properties . 	16+14hrs* 3hrs 3hrs
Theoretical Practical Practical Practical	IV – Blood . <ul style="list-style-type: none"> ▪ Composition and function . ▪ Plasma proteins . ▪ Red blood cells and anemia . ▪ White blood cells and immunity . ▪ Blood platelets , hemostasis, abnormalities and anticlotting mechanisms ▪ Blood groups . 	25hrs * 3hrs 3hrs 3hrs
Theoretical	V – Cardiovascular system . <ul style="list-style-type: none"> ▪ Cardiac muscle properties . ▪ Electrical properties of c. muscle: sinus rhythm , 	55hrs *

Theoretical & practical	<ul style="list-style-type: none"> action potential . ▪ <u>ECG : methods of recording ,normal record and common abnormalities .</u> 	3hrs
Theoretical & practical	<ul style="list-style-type: none"> ▪ Mechanical properties of c. muscle . ▪ Cardiac cycle .(<u>heart sounds</u>) ▪ Cardiac output , and factors affecting . ▪ Work of heart , mechanical efficiency , cardiac reserve & metabolism of c. muscle. 	3hrs
Theoretical & practical	<ul style="list-style-type: none"> ▪ Hemodynamics . ▪ <u>Arterial blood pressure</u> , factors controlling it and its regulation . 	6hrs
Practical	<ul style="list-style-type: none"> ▪ <u>Capillary & lymphatic circulation</u> ▪ Special circulation : coronary , pulmonary and cerebral . ▪ Hemorrhage shock and muscle exercise . 	3hrs
Theoretical	VI – Respiratory system .	40hrs *
Theoretical & practical	<ul style="list-style-type: none"> ▪ Functional anatomy . ▪ Pulmonary ventilation , compliance , work of breathing and V/P ratio . ▪ <u>Pulmonary function tests .</u> ▪ Exchange of gases through the pulmonary membrane and gas transport . ▪ Regulation of respiration . ▪ Hypoxia , cyanosis , and dyspnea . ▪ Effect of hyperbaric oxygen & deep sea diving . 	3hrs
Theoretical	VII – Biophysics. Selected topics related to the excitable tissues , CVS and respiratory stem .	3hrs *

- Total of lectures & tutorial theoretical hours for each system .

IV. TEACHING METHODS:

IV-1: METHODS USED:

1. Lectures : the students are divided into two groups (about 700 students each) .
2. Tutorial classes : two groups (about 60 students each) .
3. Practical training : small groups training (about 25 students each) .
4. A yearly scientific day for students , in the form of small group presentations . The titles of the subjects are determined during several meetings with staff .

IV-2: METHODS FOR DISABLED STUDENTS:

No special arrangements are available .

IV-3: TEACHING PLAN:**Lectures :**

In two big lecture halls (700 students each), a 1hr lecture daily (5days/week) is scheduled & integrated with the departments of anatomy , histology & biochemistry .

Tutorials :

In two small lecture halls (60 students each) a 3hr / 2 weeks (during 3 month each term). The tutorial class is scheduled and previously announced (2 weeks before) . The subjects , which are conversationally directed are lagging by few weeks to the related branches and systems given at that time in the lectures . Special topics from the curriculum – of special interest – are exclusively discussed in the tutorial classes .

Practical training :

In two big labs a 3hr / 2 weeks (alternating with the tutorial classes) small groups (25 students) is scheduled & the planned practical tests are announced two weeks before.

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	Daily (for 5 days/week)	1 hr	130 hrs
Tutorials	Every two weeks	3 hrs	36 hrs
Practical	Every two weeks	3 hrs	36 hrs
Scientific day	Once / year in feb / march prepared for 6-8weeks by students and by supervised by staff members	6 hrs	6 hrs
TOTAL			208 hrs

V. STUDENT ASSESSMENT:**V-1: ATTENDANCE CRITERIA:**

The minimal acceptable attendance in the practical & tutorial is 70% . Students who fail to attend this percentage (in each half of the year) will not be allowed to take the midyear and end of the year final theoretical exam and the end of the year practical exam ..

V-2: ASSESSMENT TOOLS:

TOOL	PURPOSE
Written exam	Assessment of knowledge & understanding
Practical exam	Assessment of some practical and intellectual skills
Oral exam	Assessment of knowledge & understanding, intellectual and general skills.
Sharing in scientific day	Recorded in log book /mandatory once for the first 2 years

V-3: TIME SCHEDULE:

Midyear exam : in January for all students .

Midterm exam : in March for all students .

Final exam : in June (at the end of the academic year) for all students .

V-4: GRADING SYSTEM:

Examination:	Marks allocated
Midyear	40
Midterm	10
Final exam : written	125
Oral	30
Practical	40
Attendance	5
TOTAL	250

- The minimal passing score is **150 marks** , provided at least **30 marks** are obtained in the final written exam .
- Passing grades are: **EXCELLENT** $\geq 85\%$, **VERY GOOD** 75- <85%, **GOOD** 65- <75% and **FAIR** 60- <65%.

V-5: EXAMINATION DESCRIPTION:

Examination:	Description	Marks allocated
Midyear	MCQ (single best opinion) + true & false & graph commenting	40
Midterm	10 MCQ	10
Final exam : written : - short essay	Short essay questions In all systems taught All questions are to be answered .	50
- MCQ	50 MCQ(single best opinion) + true & false & commenting on a graph .	75
- Oral	In front of two separate examiners (an internal & an external)	30
- Practical	In the lab , at multiple phases through the practical course	45
TOTAL		250

VI. LEARNING AND REFERENCE MATERIALS:

VI-1 : Basic Materials : Department book : written by staff members (5 volumes) is available for purchase by students from bookshops installed in the faculty .
Some additional lecture notes .

VI-2 : Suggested materials :

- Guyton : Textbook of Medical Physiology .
 - Ganong : Review of Medical Physiology .
 - Illustrated medical physiology .
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Cairo University
Faculty of Medicine
Department of Medical Biochemistry

Course Specifications

Course title: Medical Biochemistry and Molecular Biology -I

First academic year of M.B.& B.Ch. program

Allocated marks: 150 marks

Course duration: 24 weeks of teaching with a final end of year examination

Total teaching hours: 168 hrs.

Course director: Prof. Dr. Emad Zaki Abbas

Head of Medical Biochemistry Department

Teaching staff: 32 professors, 11 assistant professors, 8 lecturers and 12 assistant lecturers and/demonstrators.

I- Aim of the Course:

- To enable students to understand the essential topics of biochemistry including micro- and macromolecules of carbohydrates, lipids, proteins, nucleotides and nucleic acids.
- To enable the student to describe the biological membrane, the role of free nucleotides in signal transduction control, and macromolecules involved in transmission of information from gene expression to the formation of functioning proteins.
- To familiarize the students with basic principles of Molecular biology and protein synthesis.
- To enable the student to be familiar with biotechnology methods and their clinical implications.
- To make the student oriented with the physico-chemical basis of the biological systems; and the related clinical problems.

II. INTENDED LEARNING OUTCOMES:**II- A) KNOWLEDGE AND UNDERSTANDING:**

By the end of the course, students should be able to:

1. Describe the structure and properties of carbohydrates, lipids and proteins of biological importance.
2. Describe the structure of cell membrane and point out its importance.
3. Describe the structure of heme and proteins of the extra-cellular matrix.
4. Demonstrate the structure and importance of immunoglobulins.
5. Describe the chemistry of nucleotides and nucleic acids.
6. Point out the processes of replication, transcription and translation.
7. Describe recombinant DNA biotechniques.
8. Point out the significance of human genome project and the principles of gene therapy.

II- B. PROFESSIONAL SKILLS:**II- B1) Practical skills:**

By the end of the course, students should be able to:

1. Perform some basic chemical tests to identify different sugars and proteins.
2. Use the electrophoresis technique to separate plasma proteins.
3. Recognize how DNA is extracted and be aware of further techniques using the extracted DNA.
4. Apply thin layer chromatography (TLC) technique in separating a mixture of proteins and/or lipids.

II- B2) Intellectual skills:

By the end of the course, students should be able to:

1. Interpret the observations of chemical tests to identify unknown sugar or protein solutions.
2. Identify electrophoresis bands and comment on them.
3. Interpret the separation foci of TLC.
4. Interpret the photographs of electrophoresis runs of Polymerase chain reaction (PCR) products.

II- C) GENERAL SKILLS:

By the end of the course, students should be able to:

- 1-Work effectively in a group in lab or during preparation of seminars.
- 2- Respects the role of staff and co-staff members regardless of degree or occupation.

III. COURSE CONTENTS:

Subject	Lectures hrs	Practical/small groups hrs	Total	% total hrs
Introduction to Medical Biochemistry	8	1.5	9.5	6
Carbohydrate Chemistry	12	9	21	17
Lipid Chemistry	12	3	15	13
Protein Chemistry	12	9	21	17
Connective Tissue Proteins	4	0	4	3
Haemoproteins	4	1.5	5.5	4

Immunochemistry	3	1.5	4.5	3
Biological Membranes	3	0	3	3
Nucleotides and Nucleic acids Chemistry	6	3	9	8
DNA Replication and Repair	6	1.5	7.5	6
Gene Expression and Transcription	6	1.5	7.5	6
Protein Synthesis and Modifications	4	1.5	5.5	4
Cell cycle; Regulatory factors, Apoptosis, Oncogens and Carcinogenesis	4	1.5	5.5	4
Recombinant DNA Technology, Principals Gene Therapy and Human Genome project	6	1.5	7.5	6
Total	90	36	126	100

III-A) TOPICS:

1. Physical chemistry: water, acids and bases, buffers, acid-base balance disturbance and solutions (types and properties).
2. Carbohydrates: classification (monosaccharides-disaccharides and polysaccharides), Properties and biological importance.
3. Lipids: Fatty acids, eicosanoids, simple lipids, conjugated lipids (including phospholipids and cerebrosides) and derived lipids (including steroids); their properties and biological importance.
4. Proteins: classification and properties of amino acids. The protein conformation, properties of proteins, isolation and purification, classification into simple and conjugated proteins.
5. Protein of the extracellular matrix: Structure and functions of collagen, elastin, fibronectin, bone and cartilage proteins.
6. Hemoproteins: Chemistry of heme, myoglobin and hemoglobin, organization of the globin gene families, abnormal hemoglobin (hemoglobinopathies); and other hemoproteins.
7. Immunoglobulins: Immune systems, primary and secondary immune response, structure and types of immunoglobulins.
8. Cell membrane: membrane structure, asymmetry (mosaic structure), fluidity and erythrocyte membrane. Diseases due to mutations affecting gene encoding membrane proteins.
9. Chemistry of nucleotides: Structure of nitrogenous bases, nucleosides and nucleotides, free nucleotides of biological importance.
10. Chemistry of nucleic acids: structure of DNA, chromatin and chromosomes. Mitochondrial DNA, and types of RNA.
11. DNA replication and repair.
12. Transcription (RNA synthesis), processing of RNA, regulation of gene expression.
13. Protein synthesis (translation): synthesis of polypeptide chain, post-translation processing.
14. Gene mutation: causes, types and effects.
15. Cell cycle and its regulation.
16. Apoptosis: definition, causes and mechanism.
17. Carcinogenesis: Protooncogenes, oncogenes and tumor suppressor genes.
18. Recombinant DNA technology: Restriction enzymes, cloning, PCR, hybridization, DNA sequencing, gene therapy, human genome project.

III-B) PRACTICAL CLASSES:**i) Identification of:****1- Carbohydrates:**

- a. Monosaccharides: glucose, fructose.
- b. Disaccharides: sucrose, maltose.
- c. Polysaccharides: starch, dextrin.

2- Protein: Peptone, gelatin, caseinogen, egg white (albumin and globulins)**3- Uric acid and urea.****ii) Electrophoresis:** of plasma proteins, lipoproteins and/or hemoglobin.**iii) Thin layer chromatography (TLC):** of phospholipids, amino acids, sugars and/or proteins.**iv) DNA extraction.****IV. TEACHING AND LEARNING METHODS:****IV-A) METHODS USED:**

1. Lectures
2. Practical classes (small group teaching, practice of laboratory skills, AV aids):
 - 2.1 Chemical tests.
 - 2.2 Electrophoresis.
 - 2.3 Chromatography.
 - 2.4 DNA extraction.

IV-B) METHODS FOR DISABLED STUDENTS:

No special arrangements are available.

IV-C) TEACHING PLAN:***Lectures:***

4 lectures per week; one hour each between 11.00 a.m and 2.00 p.m according to the current time table in general lecture halls.

Practical classes and tutorials:

The students are divided into 6 groups. Each group has three hours-practical class once per week. Students of each group are divided into 2 subgroups. Both subgroups will rotate between tutorial classes (the related subjects of the theoretical lectures with AV aids) and practical class.

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	4 times/week; one hour each between 11.00 a.m and 2.00 p.m	4x24 wks	96
Practical	3 hours every other week	3x12	36
Tutorial	3 hours every other week	3x12	36
Total			168

V- TEACHING AND LEARNING FACILITIES:

Facilities used for teaching this course include:

- Lecture halls: provided by the faculty.
- Small group classes: in the department.
- Information technology / AV aids: available in computer- assisted classes in the department.
- Laboratory: laboratory facilities to perform the required experiments are available in the department.

VI- STUDENT ASSESSMENT:**VI-A) ATTENDANCE CRITERIA:**

The minimum acceptable practical (and tutorial) attendance is 75%; students who fail to attend that percentage of activities will lose 5 marks out of the practical marks. Students need to attend at least 60% in order to attend for the final practical examination.

VI-B) Assessment TOOLS:

Tool	Purpose
Written examination	Assessment of knowledge and understanding
Oral examination	Assessment of knowledge and understanding
Practical examination	Assessment of practical , intellectual and general skills. (check list)

VI-C) TIME SCHEDULE:

- Formative examinations: one in *January* for all students and the other in *April*. The students who don't attend the examination(s) for acceptable reason; their marks will be raised as a proportion from the final written examination score.
- Final examination: at the end of the academic year, in *May*, for all students. The exam will be re-held in *September* for those who fail to pass the final exam or postpone it

VI-D) GRADING SYSTEM:

Examination	Marks allocated
Formative examinations:	
January	20
April	10
Final examination	
Written	75
Oral	20
Practical	25
Total	150

- The minimum passing score is 90 marks provided at least 30 marks are obtained in the final written examination.
- Passing grades are: EXCELLENT $\geq 85\%$, VERY GOOD 75-<85%, GOOD 65-<75% and FAIR 60-<65%.

FORMATIVE ONLY ASSESSMENT:

Student knows his marks after the Formative exams.

VI-E) Examination description:

Examination	Description	Marks
<i>Formative Exam:</i>		
January	one--hour written paper composed of short essay type questions.	20
April	30-min MCQ exam.	10
<i>Final</i>	A 3-hour written paper composed of short essay type questions (45 marks) and MCQ (30 marks)	75
<i>Practical</i>	Identification of provided solutions and giving report on provided material either electrophoresis film, TLC plate, chromatography paper and/or electrophoresis photograph of PCR run	25
<i>Oral</i>	One oral examination station	20
Total		150 marks

VII. LEARNING AND REFERENCE MATERIALS:**VII-A) Basic materials:**

- Department book: available for students to purchase from different bookshops at the faculty.
- Overhead projections and computer presentations used during teaching in tutorial classes.
- Notes on the laboratory practical work.

VII-B) Suggested materials:

- * Harper's Biochemistry.
- * Lippincott's Illustrated Biochemistry.
- * The Department's web site. *<http://www.medbio.eg.net>*

Cairo University
Faculty of Medicine
Department Histology

Course specifications

Course title:

HISTOLOGY First year of M.B.& B.Ch. program

Allocated marks: 150 marks

Course duration: 30 weeks

Total teaching hours: 120 hours (48 hours theoretical + 72 hours practical)

Course director: Prof. Dr Nadia Mostafa

Head of Histology Department

Teaching staff: 23 professors, 11 assistant professors, 18 lecturers, 5 assistant lecturers & 4 tutors

. AIM OF THE COURSE:

- To inform students about the different histological tools & techniques
- To teach the students the basic histological structures of different cells and tissues of human body, preparing them for studying organs and systems in the second term & second year
- Making correlation between function and structure of various tissues and their clinical significance

II. INTENDED LEARNING OUTCOMES:

II-1: KNOWLEDGE and UNDERSTANDING:

By the end of the course, students should be able to:

1. Define and describe the histological characteristics of normal cells
2. Differentiate between normal and abnormal karyotyping
3. Describe and compare between different blood cells
4. Define and discuss the basic histological tissues of the body (General histology) and some systems in the second term (Vascular, Lymphatics, & skin)

II-2: PRACTICAL SKILLS:

By the end of the course, students should be able to:

5. Know various types of stains & microtechniques
6. Know different cell organelles in projector slides
7. Know different blood cells in blood films seen in projector slides
8. Know different types of epithelium, connective tissue cells, connective tissue proper & bone cells.
9. Differentiate between different tissues and organs in histological slide seen under the microscope.
10. Know how to make a total red & white count using the hemocytometer
11. Know how to make a differential leucocytic count using the blood film

II-3: INTELLECTUAL SKILLS:***By the end of the course, students should be able to:***

12. Answer MCQ questions on various parts of the curriculum
13. Correlate between histological structure & function of any cell or tissue
14. Diagnose slides different from those seen during his course but of the same organs or tissues previously studied
15. Distinguish between normal and abnormal karyotyping
16. Interpret a complete blood picture report

II-4 Life long learning :***By the end of the course students should be able to:***

17. Appreciate the importance of life long learning and show a strong commitment to it
18. Use the sources of biomedical information to remain current with advances in knowledge and practice
19. Frame a question, search and literature, collect, analyze, critically appraise and utilize the obtained information to solve a particular clinical problem according to the principles of evidenced based medicine

II -5 Ethical behavior***By the end of the course, students should be able to:***

20. Express themselves freely and adequately by improving their descriptive capabilities and enhancing their communication skills
21. Maintain professional image in manner, dress speech and interpersonal relationships that is consistent with the medical profession's accepted contemporary standards in the community

III. COURSE CONTENTS:**III-1 TOPICS**

Topic	Lectures	Practical
1- Introduction , Microtechniques & Cytology	6	9
2- Cytogenetics	4	6
3- Blood	6	9
4- Epithelium	3	6
5- Connective Tissue	3	6
6- Cartilage	1	3
7- Bone	3	6
8- Muscle	3	3
9- Nervous tissue	4	6
10- Vascular	2	3
11- Skin	2	3
12- Receptors	2	3
13- Lymphatic System	3	6
14- Reticuloendothelial system	1	
Total (112 hours)	43	69

I) Course Contents**1-Introduction , microtechnique & cytology**

- Histology is the science dealing with the study of the normal microscopical structure of tissues. It helps the student to correlate between the structure & function of tissues and organs. It also, prepares the student to study histopathology.
- General structure of the cell
- Cytoplasmic contents (organelles & inclusion)
- Classification of organelles into membranous & non- membranous organelles
- LM, EM , molecular biology & functions of cell membrane Cell coat & its functions
- Mitochondria
- Golgi complex
- Endoplasmic reticulum
- Lysosomes
- Peroxisomes
- All of the above membranous organelles are described as regarding their EM&LM pictures, molecular biology and function
- Non - membranous organelles:
- Ribosomes, Centrioles , Cilia, Flagella, Microtubules & microfilaments.
- Regarding their LM, EM, molecular biology & function
- Cell inclusions
- Structure of the nucleus (LM& ~M) & its functions
- Molecular biology of DNA
- Types of RNA & protein synthesis

2- Cytogenetics

- Cell division (mitosis & meiosis)
- Cell cycle & interphase
- Chromosomal number & sex chromosomes
- Karyotyping & classification of chromosomes
- Structure of chromosomes
- Sex chromatin
- Abnormalities of cell division
- Causes of chromosomal aberrations
- Aberrations in chromosomal number, e.g. Mongolism
- Aberrations in chromosomal structure
- Aberrations of sex chromosomes e.g. Turner & Klinefelter syndromes
- Blood groups

3- Blood

- What are the blood elements?
- Normal structure, size & number of erythrocytes
- Abnormalities in structure, size & number of RBCs
- Polycythaemia & anaemia ad their causes
- How the RBCs are adapted to perform their function
- Differences between RBCs & WBCs
- Types of WBCs & normal % of each
- Total leucocytic count & its clinical importance
- Differential leucocytic count & its importance
- Detailed structure & function of neutrophils
- Detailed structure & function of eosinophils

- Detailed structure & function of basophils
- Structure & function of lymphocytes
- Structure & function of monocytes
- Structure & function of platelets
- Types & structure of bone marrow
- Erythropoiesis
- Granulopoiesis
- Development of lymphocytes
- Development of monocytes
- Development of platelets

4- Epithelium

- General characteristics of epithelium & its types
- Types of simple epithelium (structure & sites)
- Transitional epithelium
- Structure & sites of stratified squamous & stratified columnar epithelium
- Glandular epithelium with reference to sites
- Neuro- and myo-epithelium with reference to sites
- General functions of epithelium
- Modifications of epithelial cells surfaces: Apical basal & lateral modifications

5- Connective tissue (C.T.)

- General characteristics & Types of C.T. Cells of C.T. proper (LM, EM & function)
- Cells of C.T. proper (continuation)
- Fibers of C.T.
- Ground substance
- Types of C.T. proper with reference to sites
- General functions of C.T. proper

6- Cartilage

- Types of cartilage
- Histology of each type
- Sites of each type
- General functions

7- Bone

- Types of bone with reference to sites
- Methods of preparation of bone sections
- Histology of compact bone
- Bone cells & their functions
- Histology of spongy bone
- Differences between cartilage & bone
- Ossification (intramembranous & intracartilagenous)

8- Muscular tissue

- General histological structure of muscle cells (fibers)
- Types & action of muscles
- Skeletal muscle

- Skeletal muscle fibers (LM & EM)
- Types of skeletal muscle fibers
- EM picture of myofibrils
- Mechanism of muscle contraction
- Smooth muscle fibers (LM & EM)
- Cardiac muscle fibers (LM & EM)
- Conducting system of heart
- Purkinje muscle fibers

9- Nervous tissue

- Definition of the neuron
- Types (classification) of neurons & examples (EM)
- Dendrites & axons
- Types of nerve fibers with examples
- Histology of peripheral nerve fibers
- Structure of nerve trunk
- Spinal & autonomic ganglia
- Synapse
- Causes of degeneration
- Retrograde degeneration
- Wallerian degeneration
- Traumatic & transneuronal degeneration
- Stains used for detection of degeneration
- Regeneration
- Definition of neuroglia
- Classification & sites
- Detailed structure of proper neuroglia cells
- General functions of neuroglia
- Endings in muscular tissue
- Pacinian corpuscle with reference to sites & function
- histology of the nerve cell (LM & EM)
- Muscle spindle (LM & EM)
- Motor end plate (LM & EM)

10- Skin Integument

- Definition
- Types & sites of skin
- Histology of thick non-hairy skin
- Histology of thin hairy skin
- Hair, hair follicles & nails
- Color of skin & melanin
- Skin glands (sweat & sebaceous glands)

11- Blood vascular system

- General structure of blood vessels & its significance
- Large, medium sized & small arteries
- Small, medium sized & large veins
- Structure of special blood vessels e.g. basilar, coronary, umbilical & penile arteries

- Types, sites & structure of capillaries
- Blood sinusoids with reference to their sites
- AV shunt

12- Lymphatic system

- Lymph vessels & distribution of lymphoid tissue
- Lymph node & its immunological function
- Spleen & its function
- Differences between lymph node & spleen
- Blood supply of spleen & theories of circulation
- Tonsils
- Structure & functions of thymus
- Thymic barrier

13- Immune system & RES

- Cells involved in the immune system & their functions
- Antigen presenting cells
- Cells of RES & method of their demonstration

III) Course Objectives

Unit 1: MICROSCOPY & MICROTÉCHNIQUE

Unit 2: CYTOLOGY AND CYTOGENETICS

Unit 3: BLOOD

Unit 4: GENERAL HISTOLOGY

Unit 5: SPECIAL HISTOLOGY

Unit 1: MICROSCOPY & MICROTÉCHNIQUE:

- Types of microscopes:
- Light microscope (LM) & its magnification powers
- Electron microscope (EM)
- Methods of preparation of microscopical sections:
- Steps of preparation & aim of each step
- Advantages & disadvantages of each method
- Principles of staining with Haematoxylin & Eosin
- Types of stains

Objectives:

By the end of this unit, the student should be able to:

1. use the light microscope
2. differentiate between basophilic & acidophilic structures.

Unit 2: CYTOLOGY AND CYTOGENETICS

- EM picture & molecular biology of cell organelles
- Cell inclusions (LM & EM)
- Nucleus (LM & EM), DNA and types of RNA
- Cell division & cell cycle
- Abnormalities of cell division

- Structure of chromosomes
- Chromosomal abnormalities (in structure & number)
- Sex chromosome abnormalities
- Blood groups

Objectives:

By the end of this unit, he should know:

1. How to correlate the predominance of a cell organelle & the function of the cell
2. To understand the bases of cytogenetics, so he can understand genetic diseases studied in pediatrics.

Unit 3: BLOOD

- Structure & functions of RBCs, WBCs & platelets.
- Structure & types of bone marrow
- Haemopoiesis

Objectives:

By the end of this unit he should be able to:

1. Read a blood report
2. Do a blood film & stain it with Leishman stain
3. Do a differential leucocytic count
4. Know the relation between leucocytes & diseases.

Unit 4: GENERAL HISTOLOGY**A. EPITHELIAL TISSUE****B. CONNECTIVE TISSUE****C. MUSCULAR TISSUE****D. NERVOUS TISSUE****A. EPITHELIAL TISSUE:**

- General characteristics & function
- Types & sites
- Structure of each type
- Epithelial polarity & modifications of cell surfaces

Objectives:

By the end of this unit the student should be able to:

1. Correlate between the site and structure of each type and the function of the organ.
2. Correlate between the surface modification and the function of the organ
3. Differentiate between the different types to help him to identify the given organ.

B. CONNECTIVE TISSUE:

1) Connective tissue proper:

- General characteristics
- Structure (LM & EM) & functions of cells
- Structure & types of fibers
- Structure of ground substance
- Types of CT proper & sites of each
- General functions of CT proper

2) Cartilage:

- Types, structure, sites & functions

3) Bone:

- Types, structure, sites & functions
- Structure & functions of bone cells

- Ossification

Objectives:

By the end of this unit the student should be able to:

1. differentiate microscopically between the different types of CT proper, cartilage & bone.
2. correlate between structure, site & function of each type.

C. MUSCULAR TISSUE

- General histological structure & types
- Skeletal muscle (LM & EM)
- Smooth muscle (LM & EM)
- Cardiac muscle & conducting system of heart

Objectives:

By the end of this unit, the student should be able to:

1. Differentiate microscopically between the different muscles (LS & TS).
2. Correlate between structure & the mode of action of each.

D. NERVOUS TISSUE:

- Types of neurons
- Histology of the neuron (LM & EM)
- Types & structure of nerve fibres
- Structure of ganglia
- Structure & types of synapse
- Degeneration & regeneration of neurons
- Stains used to detect degeneration in nervous tissue
- Neuroglia & their functions
- Types & structure of nerve endings (receptors & effectors)

Objectives:

By the end of this unit, the student should be able to:

1. Correlate between the structure of neurons & ganglia.
2. Know when neurons could regenerate
3. Know the importance of neuroglia
4. know the different receptors & effectors and their functions

Unit5: SPECIAL HISTOLOGY**A. INTEGUMENT****B. BLOOD VASCULAR SYSTEM****C. LYMPHATIC SYSTEM****D. IMMUNE SYSTEM AND RETICULO-ENDOTHELIAL SYSTEM (RES)**

A. INTEGUMENT:

Types, sites & structure of skin Hair, hair follicles & nails Color of skin Skin glands (sweat & sebaceous glands)

Objectives:

By the end of this unit, the student should know:

1. How to differentiate microscopically between hairy and non-hairy skin.
2. To correlate between the structure & the functions of skin.

B. BLOOD VASCULAR SYSTEM:

- General structure
- Arteries (large, medium-sized & small)
- Veins (large, medium-sized & small)
- Structure of special arteries & veins

- Blood capillaries, sinusoids & A-V anastomosis

Objectives:

By the end of this unit, the student should be able to:

1. Differentiate microscopically between different arteries & different veins.
2. Correlate between the structure of blood vessels and their function
3. Correlate between the presence of blood sinusoids & AV shunt in an organ and its function

C. LYMPHATIC SYSTEM:

- Lymph vessels
- Distribution of lymphoid tissue
- Lymph node
- Spleen & its microcirculation
- Tonsils
- Thymus & thymic barrier

Objectives:

By the end of this unit, the student should be able to:

1. Differentiate microscopically between organs containing lymphoid tissue
2. Correlate between the structure of these organs & their functions
3. Know the importance of these organs in the immune function of the body

D. IMMUNE SYSTEM AND RETICULO-ENDOTHELIAL SYSTEM (RES):

- Cells involved in the immune system
- Antigen-presenting cells
- Cells of RES & the method of their demonstration

Objectives:

By the end of this unit, the student should know:

1. How does the immune system start to work.
2. Immunological function of lymphocytes & macrophages
3. Sites of presence of phagocytic cells and antigen-presenting cells

IV. TEACHING METHODS:

IV-1: METHODS USED:

- 1- Lectures (60 hours = 2 lectures / week for 30 weeks)
- 2- Practical sections (90 hours = 3 hours / week for 30 weeks)

IV-2: METHODS FOR DISABLED STUDENTS:

No special arrangements are available

IV-3: TEACHING PLAN:**Lectures:**

The students are divided into two groups in two large lecture halls in the Medical Education Center building for two lectures weekly. The first lecture is on Sunday from 1 pm – 2 pm. & the second one is on Wednesday from 11 am – 12 am.

Practical classes:

Students are divided into five (5) big groups on 5 days of the week (Saturday – Wednesday). Each big group is subdivided into four (4) smaller groups distributed on the 4 available labs. (Each small group is about **80 – 95 students**) ??? . **Each 3 students share one microscope.**

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	Sunday 1 – 2 pm Wednesday 11 – 12 am	2 hours weekly for 24 weeks	48 hours
Practical classes	Daily on 5 days weekly from Saturday – Wednesday) from 8 am – 11 am	3 hours weekly for 24 weeks	72 hours
TOTAL			120 hours

V-1: ATTENDANCE CRITERIA:

The minimum acceptable attendance is 75 %. Students need to attend at least 60 % in order to set for the final examination

V-2: ASSESSMENT TOOLS

TOOL	PURPOSE
Written examination	Assessment of knowledge and understanding
Oral Examination	Assessment of knowledge and understanding & attitude
Practical examination	Assessment of practical skills in diagnosis of different tissues under the microscope and projector slides
Practical notebook	Assessment of attendance and evaluation of understanding & drawing skills of histological sections

V-3: TIME SCHEDULE:

- **MID-YEAR EXAMINATION** : Written examination held twice a year in January and March for all students
- **FINAL EXAMINATION** : At the end of the academic year for all students

V-4: GRADING SYSTEM:

Examination:		Marks allocated
Mid-year examinations		30
Final examination	Written	60
	Oral	30
	Practical	30
TOTAL		150

- The minimum passing score is 90 marks provided at least 18 marks are obtained in the final written examination
- Passing grades are: EXCELLENT $\geq 85\%$, VERY GOOD 75- <85%, GOOD 65- <75% and FAIR 60- <65%.

V-5: EXAMINATION DESCRIPTION

Examination		Description	Marks
Mid-year	Written	The student is allow ed 1 hours to answer short questions	30 marks
Final exam	Written	The student is allow ed 3 hours to answer long and short essay type questions in addition to draw ing questions	60
	Oral	One oral examination station	30
	Practical	Projector slide examination	10
		Spotting slides	20
Total			150

VI-1 BASIC MATERIALS :

- Department books available for students to purchase from different bookshops at the faculty
- Histology for undergraduate medical students: M. Abdel - Hafez & N. Mostafa
- Atlas of histology for undergraduate medical students: M. Abdel - Hafez & N. Mostafa
- Histology for medical students: Zakaria Abdel - Hamid
- Overhead projections , slides and computer presentations used during teaching

VI-2 Suggested Materials :

- CD-Rom containing topics in the curriculum provided with photomicrographs of these topics
- Basic histology Junqueira, L.C.
- Atlas of histology: Di Fiore
- Functional Histology (Wheater's) Text & Atlas of Histology
- Gartner & Hiatt Atlas of Histology
- Cormack concise Textbook of Histology

Cairo University
Faculty of Medicine
Department of Anatomy

Course specifications

Course title: **2nd year Anatomy**
2004-2005

Allocated marks: 250 marks
Course duration: one academic year
Total teaching hours: 226 hrs. Lectures:100 hrs, practical small groups: 126 hrs.
Course director: Prof. Dr. Nabila Adieb
Head of Anatomy Department
Teaching staff: 32 professors, 5 assistant professors, 8 lecturers and
assistant lecturers / demonstrators

I. AIM OF THE COURSE:

- To provide a core body of scientific knowledge concerning the normal structure of the human body at the level of organ and organ system with the study of the normal growth and development relevant to anatomical topics.
- To provide appropriate ethical and professional education necessary for dealing with cadavers.
- To enable students to correlate anatomical facts with their clinical applications.

II. INTENDED LEARNING OUTCOMES:

II-A: KNOWLEDGE and UNDERSTANDING:

By the end of the course, students should be able to:

5. Describe the basic principles of structure of the different tissues, organs and systems of the human body.
6. Describe the surface landmarks of the underlying bones, muscles and tendons, and internal structures (main nerves, vessels and viscera).
7. Explain the different stages of human development, evolution and growth.
8. Outline the major clinical applications of anatomical facts.

II-B: SKILLS:

By the end of the course, students should be able to:

5. Apply the anatomical facts while examining the living subject in order to reach a proper diagnosis.
6. Identify the different surface markings and determine the position or course of internal structures.
7. Identify the different internal structures in cadavers and preserved specimens.
8. Interpret the normal anatomical structures on radiographs, ultrasound, C.T. scans and

nuclear magnetic resonance images.

9. Interpret some clinical findings in relation to developmental basis.

II-C: Attitudes:

By the end of the course, students should be able to:

10. Maintain honesty and integrity in all interactions with teachers, colleagues, patients and others with whom physicians must interact in their professional lives.
11. Value the ethics and respect to all individuals inside and outside the dissecting room and pay a good deal of respect to the cadavers.
12. Recognize the scope and limits of his role as a student as well as the necessity to seek and apply collaboration with other workers.
13. To afford the responsibility towards work.
14. Maintain a professional image concerning behavior, dress and speech.

III. COURSE CONTENTS:

III-A: TOPICS:

Topic	total hours %	No of hrs	
		Total Lectures	Practical small groups
1-Head & Neck	37.5%	34	51
2-Neuroanatomy	18%	16	24
3-Abdomen & Pelvis	37.5%	34	51
4-Special Embryology	7%	16	
TOTAL		100	126

IV. TEACHING & LEARNING METHODS:

IV-A: Teaching methods:

1. Lectures for acquisition of knowledge: Two large groups, 5 times/week.
2. Practical classes: including practical dissection, demonstration in the dissecting room, museum jars and radiological films.
3. Tutorial classes: two hours/week before dissecting a major region and a brief discussion by the end of each practical session.

IV-B: Teaching plan:

- **Lectures:**
- **Practical:**

IV-C: METHODS FOR DISABLED STUDENTS:

Not present

V- Teaching and learning facilities:

Facilities used for teaching this course include:

- 1- Dissecting room including cadavers, bones, plastic models and plastinated specimens.
- 2- Museum specimens, x-ray & CT scans.
- 3- Visual aids.

VI- STUDENT ASSESSMENT**VI-A- ATTENDANCE CRITERIA:**

The minimal acceptable attendance is 75% ; students who fail to attend that percentage of activities will not be allowed to sit for final written examination.

VI-B- ASSESSMENT TOOLS:

TOOL	PURPOSE
Written examination (3 hours)	Assessment of knowledge and understanding
Oral examination (10-15 minute)	Assessment of knowledge and understanding
Practical examination	Assessment of identification
Practical book	Assessment of practical activities, MCQ questions and drawings.

VI-C- ASSESSMENT SCHEDULE:

- ❑ MIDYEAR EXAMINATION: Held usually at January , students should submit their practical books to sit for the examination.
- ❑ FINAL EXAMINATION: at the end of the academic year for all students.
- ❑

VI-D- GRADING SYSTEM:

Examination	Marks allocated
Mid Year Examination written and practical	50
Final examination	
-Written	125
-Oral	30
-Practical	45
Total	250

- The minimum passing score is 150 marks (60%).
- Passing grades are: Excellent 85%-100% or more, VERY GOOD 75%-84%
GOOD 65%-74% and FAIR 60%-64%.

E- PRACTICAL BOOK DESCRIPTION:

Practical book: must be completed during the practical classes of academic year.

VII- Examination descriptions

Mid year exam: A 2-hours written exam and a practical exam.

	Examination	Description	Marks
Mid year (50 marks)	Written	6 short essay & question each 5 marks (5x6=30)	30 marks
	Practical	10 stations (one mark each)	10 marks
	Practical book		10 marks

Final exam:

D) Written 3-hour exam

E) Practical exam: 60 mins. duration fresh specimens, bones and X-ray and CT scans

F) Oral exam 10 -15 mins

- ♦ 2 committees each 15 marks

Final exam (200 marks)	Written	9 essay questions including H & N, neuroanatomy, abdomen, pelvis and embryology MCQ = 30 marks Problem solving & applied anatomy 5 marks	Total 125 marks
	Practical examination	Including: -bones -soft tissue -imaging anatomy	45 marks
	Oral	2 committees internal and external examiners	2*15 =30 marks
TOTAL			250 marks

VII- List of references:

- 1- Course notes: Book authorized by department.
- 2- Essential Books:
 - a) Cunningham's anatomy
 - b) Gray's anatomy
 - c) National books

Cairo University
Faculty of Medicine
Medical Physiology Department

Course specifications

Course title: Medical Physiology

2nd year of M.B.& B.Ch. program

Allocated marks: 250 marks.

Course duration: 26 weeks of teaching with a midyear and a final end of year exam.

Total teaching hours: 196 hrs.

Course director: Prof.Dr. Mohamed Hassan Aly : Head of the department .

Teaching staff: 23 Professors, 8 Ass.Prof. , 8 lecturers, 10 Ass. Lecturers & demonstrators .

I. AIM OF THE COURSE:

The aims of this course are to enable students to :

6. continue upgrading the physiological basis taken in his first year.
7. explore in details the functions of the endocrinal, the reproductive the nervous, the renal & the digestive systems as well as their integration to achieve homeostasis.
8. integrate physiological data & mechanisms with the ongoing basic sciences: anatomy , histology & biochemistry and their clinical applications .
9. follow the rapidly changing and inflating details about molecular physiology & genetics .
10. develop the basic skills and ethical behavior required for scientific research, as well as effective communication and team work attitude .

II. INTENDED LEARNING OUTCOMES:

II-1: KNOWLEDGE and UNDERSTANDING:

By the end of the course, students should be able to:

5. describe the functions of the nervous, the endocrine, the reproductive , the renal and the digestive systems at the organ and at the molecular levels.
6. describe the metabolism from the physiology point of view.

II-2: PRACTICAL SKILLS:

By the end of the course, students should be able to:

1. perform a systematic examination of the nervous system : types of sensations , motor system , tendons jerks and muscle tone .
2. perform the most important visual tests: corneal , light & accommodation reflexes , visual acuity , colour vision and visual field defects .
3. perform a preliminary examination of common endocrinal conditions: acromegaly , dwarfism and a thyroid disease (hypo or hyper).

4. integrate physiology with other basic and clinical sciences .

II-3: INTELLECTUAL SKILLS:

By the end of the course, students should be able to:

1. distinguish between physiological and pathological performance of different body systems.
2. suggest the basic physiological measurements used to test different body functions.
3. integrate physiology with other sciences .

II-4: GENERAL SKILLS AND ATTITUDES

By the end of the course, students should be able to:

1. identify the essential ethical issues involved in scientific research.
2. work separately or in groups to research and prepare a scientific topic.
3. use available presentation aids (e.g Overhead Projectors or Data Show) to present clearly and effectively a scientific topic in a tutorial, a staff meeting or the yearly scientific day.

III. COURSE CONTENTS:

III-1: TOPICS:

Method used	Topic	Allocated time
Theoretical	I – The central nervous system & Special senses . <ul style="list-style-type: none"> ▪ General functional organization ▪ Receptors . ▪ Somatic sensations . ▪ Synapses of the CNS, & chemical transmitters . ▪ Organisation of the motor control : spinal , descending motor system , cortical motor areas . ▪ Spinal cord reflexes , stretch reflex , upper and low er motor neurone lesions . ▪ Basal ganglia & cerebellum : functions and sysdromes . ▪ Vestibular apparatus & control of posture . ▪ Hypothalamus & limbic system . ▪ RAS , consciousness and sleep . ▪ The neurophysiological basis of learning & memory . ▪ Functional structure of the eye , lachrymal apparatus and protection of the eye . ▪ Refractive pow er of the eye , functions of iris , aqueous humour , and retina . ▪ Visual acuity , colour and binocular vision . ▪ Visual pathw ay and role of cortical areas in perception of vision . ▪ Functional structure of the external , middle and internal ears . ▪ Mechanism of sound transduction , auditory pathw ay and auditory perception . ▪ Deafness and testing for deafness . ▪ Smell & taste , receptors and pathw ay . 	50hrs
Theoretical & practical		3hrs
Tutorial		3hrs
Theoretical & practical		3hrs
Clinical		3hrs
Theoretical & practical	II - Endocrine & Reproductive system .	3hrs
Theoretical & practical		3hrs
Tutorial		3hrs
Theoretical	II - Endocrine & Reproductive system .	38hrs

Tutorial	<ul style="list-style-type: none"> ▪ Introduction . ▪ Hormones : characters & mechanism of action . ▪ Pituitary gland : anterior & posterior and their syndromes . ▪ Thyroid gland , syndromes and function tests . ▪ Parathyroid gland , Vitamin D₃ and calcitonin . 	3hrs
Theoretical		3hrs
clinical & tutorial		3hrs
Tutorial	<ul style="list-style-type: none"> ▪ Calcium homeostasis and tetany . ▪ Suprarenal cortex : glucocorticoids , mineralocorticoids and adrenal androgens . 	3hrs
Tutorial	<ul style="list-style-type: none"> ▪ Suprarenal medulla . ▪ Endocrine pancreas : insulin and glucagon pancreatic polypeptide and somatostatin and diabetes mellitus . 	3hrs
Tutorial	<ul style="list-style-type: none"> ▪ Glucose homeostasis . ▪ Male reproduction : functional structure , spermatogenesis , blood testis barrier , male sex hormones control & actions . ▪ Female reproduction : functional structure , female sex cycles , ovulation , female sex hormones control & actions . 	3hrs
Tutorial	<ul style="list-style-type: none"> ▪ Physiology of pregnancy and lactation . ▪ Physiology of puberty . 	3hrs
Tutorial		3hrs
Theoretical	Renal physiology.	28hrs
	<ul style="list-style-type: none"> ▪ Functional structure of the kidney . ▪ Glomerular filtration , tubular segments function , renal handling of different plasma constituents . ▪ Renal Function tests . ▪ Micturition . 	3hrs
Practical & tutorial		3hrs
Theoretical	Gastrointestinal system .	10hrs
	<ul style="list-style-type: none"> ▪ Salivary secretion , mastication and deglutition . ▪ Gastric secretion , gastric mucosal barrier , motility , gastric evacuation and vomiting . ▪ Pancreatic secretion and control of secretion . ▪ Hepatic secretion , gall bladder , control of bladder evacuation , jaundice . ▪ Small & large intestine , digestive and absorptive functions . ▪ Gastrointestinal motility and GIT hormones . ▪ Defecation . 	3hrs
Tutorial		3hrs
Theoretical	Metabolism & regulation of body temperature .	4hrs
	<ul style="list-style-type: none"> ▪ Energy balance and metabolic rate . ▪ Control of food intake , obesity estimation of body fat . ▪ Body temperature , control of body temperature . ▪ Exercise physiology . 	3hrs
Practical		3hrs
Practical		3hrs

IV. TEACHING METHODS:

IV-1: METHODS USED:

5. Lectures : the students are divided to two groups .
6. Tutorial classes : small group teaching .
7. Practical training : small group training .
8. Clinical training : small group training .
9. A yearly scientific day for student small group presentations.

IV-2: METHODS FOR DISABLED STUDENTS:

No special arrangements are available .

IV-3: TEACHING PLAN:

Lectures :

In two big lecture halls , a 1hr lecture daily (5days/week) is scheduled and integrated with the other departments (anatomy , histology & biochemistry) .

Tutorials :

In two small lecture halls a 3hr / 2 weeks (during 3 month each term) , a tutorial class is scheduled and previously announced (2 weeks before) . The subjects taught and conversationally directed are lagging by few weeks to the related branches and systems given at that time in the lectures. Some topics of special interest are only exclusively discussed in the tutorial context.

Practical training :

In two big labs a 3hr / 2 weeks (alternating with the tutorial classes) small groups (12-15 students) is scheduled and the tests performed are announced two weeks before .

Clinical training :

In two small lecture halls a 3hr for two weeks where students get a chance to see, interact and perform preliminary examination of some clinical cases of patients suffering from endocrinal and neurological conditions relevant to their course content.

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	Daily (for 5 days/week)	1 hr	130 hrs
Tutorials	Every two weeks	3 hrs	33 hrs
Practical	Every two weeks	3 hrs	21 hrs
Clinical	For two weeks	3 hrs	6 hrs
Scientific day	Once / year in feb / march prepared for 6-8weeks by students and supervised by staff members	6 hrs	6 hrs
TOTAL			196 hrs

V. STUDENT ASSESSMENT:

V-1: ATTENDANCE CRITERIA:

The minimal acceptable attendance in the practical & tutorial is 70% . Students who fail to attend this percentage (in each half of the year) will not be allowed to take the midyear and end of the year final theoretical exam and the end of the year practical exam.

V-2: ASSESSMENT TOOLS:

TOOL	PURPOSE
Written exam	Assessment of knowledge & understanding
Practical exam	Assessment of practical and intellectual skills
Oral exam	Assessment of knowledge & understanding, intellectual and general skills.
Sharing in scientific day	Recorded in log book /mandatory once for the first 2 years

V-3: TIME SCHEDULE:

Midyear exam : in January for all students .

Final exam : in June (at the end of the academic year) for all students .

V-4: GRADING SYSTEM:

Examination:	Marks allocated
Midyear	50
Final exam : written (short essay + MCQ)	75 + 75
Oral	30
Practical	20
TOTAL	250

- The minimal passing score is **150 marks** , provided at least **30 marks** are obtained in the final written exam .
- Passing grades are: **EXCELLENT** $\geq 85\%$, **VERY GOOD** 75- <85%, **GOOD** 65- <75% and **FAIR** 60- <65%.

V-5: EXAMINATION DESCRIPTION:

Examination:	Description	Marks allocated
Midyear	MCQ(single best opinion) true & false & graph commenting	50
Final exam : written : - short essay	Short essay questions In all systems taught All questions are to be answered	75
- MCQ	MCQ(single best opinion) true & false & commenting on a graph	75
- Oral	In front of two separate examiners (an internal & an external)	30
- Practical	In the lab by one examiner	20
TOTAL		250

VI. LEARNING AND REFERENCE MATERIALS:

VI-1 : Basic Materials : a department book (5 volumes) is available for purchase by students from bookshops installed in the faculty .
Some additional lecture notes .

VI-2 : Suggested materials :

- Guyton : Textbook of Medical Physiology .
- Ganong : Review of Medical Physiology .
- Illustrated medical physiology .

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Department of Medical Biochemistry

Course Specifications

Course title: Medical Biochemistry and Clinical Chemistry-II

Second year of M.B.& B.Ch. program

Allocated marks: 150 marks

Course duration: 24 weeks of teaching' with a final end of year examination

Total teaching hours: 168 hrs.

Course director: Prof. Dr. Emad Zaki Abbas

Head of Medical Biochemistry Department

Teaching staff: 32 professors, 11 assistant professors, 8 lecturers
and 12 assistant lecturers and demonstrators.

I- Aim of the Course:

- To enable the student to be oriented with the biochemical importance of macro- and micronutrients as well as the structure and functions of enzymes.
- To enable the student to illustrate and/or describe the metabolic pathways of macronutrients and nucleotides.
- To enable the students to point-out hereditary and acquired metabolic disturbances and their biochemical laboratory and clinical outcomes.
- To enable the student to point out the bioenergetics of the concerned metabolic pathways under different physiological circumstances and their integrator regulations with other working metabolic pathways.
- To enable the student to describe major body fluids composition and their clinical impact.
- To enable the student to interpret medical laboratory reports.

II- INTENDED LEARNING OUTCOMES:

II- A) KNOWLEDGE AND UNDERSTANDING:

By the end of the course, students should be able to:

1. Define the metabolic pathways of carbohydrates, lipids, proteins, nucleotides and their micro-molecules and determine the site of each.
2. Illustrate the steps and regulatory mechanisms of these pathways.
3. Point out the related metabolic disorders and their clinical prints on biochemical and molecular basis.
4. Describe micronutrients, their biochemical, clinical and laboratory importance and deficiency manifestations of each.
5. Describe the components of some body fluids; viz. blood, urine, milk, Semen, CSF and sweat.

II- B) PROFESSIONAL SKILLS:**II- B1. Practical skills:**

By the end of the course, students should be able to:

5. Identify the physical and chemical characters of normal urine under different physiological conditions.
6. Perform chemical tests to detect abnormal constituents of urine.
7. Estimate serum levels of glucose, total proteins, albumin, cholesterol, creatinine and uric acid by colorimetric methods.
8. Assess glucose tolerance by glucose tolerance test.

II- B2. Intellectual skills:

By the end of the course, students should be able to:

1. Interpret symptoms, signs and biochemical laboratory findings of some metabolic disorders.
2. Interpret urine report outcome.
3. Point out the clinical significance of determination of plasma levels of glucose, total proteins, albumin, cholesterol, creatinine and uric acid and some enzymes.

4. Diagnose the type of abnormality of pathological glucose tolerance curve.
5. Point-out the etiology of metabolic disturbance in a given case study report.

II- C) GENERAL SKILLS:

- 1- The student is able to work effectively in a group in lab or during preparation of seminars.
- 2-The student respects the role of staff and co-staff members regardless of degree or occupation.

III. COURSE CONTENTS:

Subject	Lectures	Practical/ small groups	Total	% Total hrs
Enzymes	7	2	9	5.5
Bioenergetics, TCA cycle	5	1	6	4.5
Carbohydrate Metabolism	14	3	17	15
Lipid Metabolism	16	6	22	19
Insulin, Diabetes Mellitus	4	1	5	5
General Protein Metabolism	5	2	7	6
Amino acid Metabolism	10	6	16	11
Heme Metabolism	4	1	5	5
Purine & Pyrimidine Metabolism	4	2	6	5
Metabolic Integration	4	2	6	6
Large Intestine & Detoxification	2	1	3	2
Vitamins	10	2	12	6
Minerals	6	1	7	4
Body Fluids	4	5	9	5

Cell Organeells	1	1	2	1
Total	96	36	132	100

III-A) TOPICS:

19. Enzymes: definition, chemical nature, mechanism of action, factors affecting the rate of enzyme action, enzyme activators and inhibitors, and enzyme classification.
20. Bioenergetics and tricarboxylic acid cycle: steps, regulation, and importance.
21. Metabolism of carbohydrates: Dietary carbohydrates, digestion and absorption, pathways of glucose oxidation, glycogen metabolism, gluconeogenesis, special metabolism of fructose, galactose and aminosugars, pathological aspects of carbohydrate metabolism and their clinical implications with special emphasis on diabetes mellitus and biochemistry of insulin and other disorders of carbohydrate metabolism and their clinical importance.
22. Metabolism of lipids: Dietary lipids, digestion and absorption, metabolism of triacylglycerol, fatty acid metabolism, metabolism of: eicosanoids, conjugated lipids, cholesterol, ketone bodies, classification and disorders of plasma lipoproteins. Pathological aspects of lipid metabolism and their clinical implications.
23. Metabolism of proteins: Dietary proteins, digestion and absorption, general aspect of protein metabolism, metabolism of ammonia, metabolism of individual amino acids with related errors of metabolism, pathological aspects of protein and amino acid metabolism and their clinical implications.
24. Metabolism of Heme: Synthesis of porphyrins and heme, catabolism , hyperbilirubinemia and porphyrias.
25. Metabolism of purines and pyrimidines: Digestion and absorption of nucleic acids, biosynthesis and catabolism of purines and pyrimidines with the related errors of metabolism (including gout), and synthetic base analogues and their clinical use.

26. Metabolic integration: Metabolic changes, adaptation and regulation during starve-feed cycle, aerobic and anaerobic exercises, pregnancy and lactation. Special metabolism of ethyl alcohol and its pathological sequelae.
27. Biochemical changes in large intestine, and detoxification.
28. Vitamins: Types, structure, functions, deficiency manifestations and recommended daily allowance.
29. Minerals: Major elements (Ca-P-Mg-Na-K-Cl-S) and trace elements (Fe, Cu, Zn, Mn, Co., Cr., I.)
30. Body fluids: Blood, urine, milk, CSF, and sweat.
31. Functions of the major intracellular organelles.

III-B) PRACTICAL CLASSES:

1. Urine report.
2. Colorimetric measurement of plasma glucose, total proteins, albumin, cholesterol, creatinine and uric acid.
3. Variations in glucose tolerance curve under different clinical conditions.
4. Case report studies applying the out-comes of previous parameters.

IV. TEACHING AND LERNING METHODS:

IV-A) METHODS USED:

3. Lectures (general and small group lectures).
4. Practical classes (small group teaching, practice of laboratory skills, AV aids)
 - 4.1 Urine report.
 - 4.2 Colorimetric methods in clinical chemistry.
 - 4.3 Biochemical laboratory report comments.

IV-B) METHODS FOR DISABLED STUDENTS:

No special arrangements are available.

IV-C) TEACHING PLAN:

Lectures:

4 lectures/week; one hour each between 8 a.m. and 11 a.m. according to the current time table in general lecture halls.

Practical classes and tutorials:

The students are divided into 6 groups. Each group has a 3-hour practical class once per week. Students of each group are divided into 2 subgroups. Both subgroups rotate between tutorial class (the related subjects of the theoretical lectures with AV aids) and practical class.

Time plan:

Item:	Time schedule	Teaching hours	Total hours
Lectures	4 lectures/week; one hour each between 8,00 am and 11 a.m	4x24 weeks	96
Practical	3 hours every other week	3x12	36
Tutorial	3 hours every other week	3x12	36
Total			168

V- TEACHING AND LEARNING FACILITIES:

Facilities used for teaching this course include:

- Lecture halls: provided by the Faculty.
- Small group classes: in the Department.
- Information technology / AV aids: available in computer- assisted classes in the Department.
- Laboratory : laboratory facilities to perform the required experiments are available in the department.

VI. STUDENT ASSESSMENT:**VI-A. ATTENDANCE CRITERIA:**

The minimum acceptable practical (and tutorial) attendance is 75%; students who fail to attend that percentage of activities will lose 5 marks out of the practical marks. Students need to attend at least 60% in order to attend for the final practical examination.

VI-B) ASSESSMENT TOOLS:

Tool	Purpose
Written examination	Assessment of knowledge and understanding
Oral examination	Assessment of knowledge and understanding
Practical examination	Assessment of practical and intellectual and general skills (check list)

VI-C) TIME SCHEDULE:

- Formative examinations: one held in *January* and the other in *April* for all students. Those who don't attend the examination(s) for acceptable reason(s); their marks will be raised as a proportion from the final written examination score.
- Final examination: at the end of the academic year (*May*) for all students. The exam is re-held in September for those who fail to pass the final exam or postpone it

VI-D) GRADING SYSTEM:

Examination	Marks allocated
Formative examinations:	
January	20
April	10
Final examination	
Written	75
Oral	20
Practical	25
Total	150

- The minimum passing score is 90 marks provided at least 36 marks are obtained in the final written examination.
- Passing grades are: EXCELLENT $\geq 85\%$, VERY GOOD 75-<85%, GOOD 65-<75% and FAIR 60-<65%.

FORMATIVE ONLY ASSESSMENTS

Student knows his marks after the Formative exam.

VI-E) EXAMINATION DESCRIPTION:

Examination		Description	Larks
Formative Exam: Jan	Written	A one--hour written paper composed of short essay type questions.	20
April		Thirty-minute MCQ	10
FinalL	Written	A 3-hour written paper composed of short essay type questions (45 marks) and MCQ (30 marks)	75 marks
	Practical	Detection of abnormal constituents in the provided sample of urine. Colorimetric measurement of the previously studied parameters and a comment on a given laboratory biochemical report.	25 marks
	Oral	One oral examination station	20 marks
Total			150 marks

VII- LEARNING AND REFERENCE MATERIALS:**VII-A) BASIC MATERIALS:**

- Department Book: available for students to purchase from different bookshops at the faculty.
- Overhead projections and computer presentations used during teaching in tutorial classes.
- Notes on the laboratory practical work.

VII-B) SUGGESTED MATERIALS:

- Harper's Biochemistry.
- Lippincott's Illustrated Biochemistry.
- The Department's web site. *[http:// www.biomed.eg.net](http://www.biomed.eg.net)*

Cairo University
Faculty of Medicine
Department of Histology

Course specifications

Course title:

HISTOLOGY

Second year of M.B.& B.Ch. program

Allocated marks: 150 marks

Course duration: 30 weeks

Total teaching hours: 120 hours (48 hours theoretical + 72 hours practical)

Course director: Prof. Dr Nadia Mostafa

Head of Histology Department

Teaching staff: 23 professors, 11 assistant professors, 18 lecturers, 5 assistant lecturers & 4 tutors

. AIM OF THE COURSE:

- To enable students to know theoretically and practically the normal organs of various body systems
- To enable students to correlate between the histological structure & functions of various tissues & organs
- To enable students to be familiar with the various parts of the CNS regarding levels of various sections in the brain stem as well as different pathways of both ascending sensory tracts and descending motor tracts
- To prepare students for studying histopathology in 3rd year

II. INTENDED LEARNING OUTCOMES:

II-1: KNOWLEDGE and UNDERSTANDING:

By the end of the course, students should be able to:

17. Describe normal histological structure of various systems previously mentioned (Respiratory, digestive, endocrine, urinary, male & female genital, eye & ear)
18. Describe various levels of sections in the spinal cord & brain stem
19. Describe various pathways of ascending sensory tracts
20. Describe various pathways of descending pyramidal & extrapyramidal tracts
21. Describe various types of lemnisci & medial longitudinal bundle
22. Describe both cerebrum & cerebellum with its various connections

II-2: PRACTICAL SKILLS:

By the end of the course, students should be able to:

23. Know various types of special stains for various organs
24. Know ultrastructure of different cells studied in various organs
25. Differentiate between different organs in histological slide seen under the microscope.
26. Know how to label diagrams of different levels in the spinal cord & brain stem

II-3: INTELLECTUAL SKILLS:

By the end of the course, students should be able to:

27. Answer MCQ questions on various parts of the curriculum
28. Correlate between histological structure & function of different organs of all systems
29. Diagnose slides different from those seen during his course but of the same organs previously studied
30. By the end of CNS studying the student should be able to identify the different levels of spinal cord & brain stem, cerebellum & cerebrum.

II-4 Life long learning :***By the end of the course students should be able to:***

15. Appreciate the importance of life long learning and show a strong commitment to it
16. Use the sources of biomedical information to remain current with advances in knowledge and practice
17. Frame a question, search and literature, collect, analyze, critically appraise and utilize the obtained information to solve a particular clinical problem according to the principles of evidenced based medicine

II -5 Ethical behavior***By the end of the course, students should be able to:***

18. Express themselves freely and adequately by improving their descriptive capabilities and enhancing their communication skills
19. Maintain professional image in manner, dress speech and interpersonal relationships that is consistent with the medical profession's accepted contemporary standards in the community

III. COURSE CONTENTS:**III-1 TOPICS**

Topic	Lectures	Practical
1- Respiratory system	3	6
2- Digestive tract	8	15
3- Digestive glands	5	6
4- Endocrine glands	4	6
5- Urinary System	4	6
6- Male genital System	4	6
7- Female genital system	5	9
8- Eye	3	3
9- Ear	2	3
10- CNS	8	12
Total (118)	46	72

I) Course Contents

3. RESPIRATORY SYSTEM
4. DIGESTIVE SYSTEM
5. ENDOCRINE SYSTEM
6. DIFFUSE NEURO-ENDOCRINE SYSTEM
7. URINARY SYSTEM
8. MALE GENITAL SYSTEM
9. FEMALE GENITAL SYSTEM
10. EYE & EAR
11. CENTRAL NERVOUS SYSTEM

III) Course Objectives

1) RESPIRATORY SYSTEM

- Nasal cavity & olfactory epithelium
- Nasopharynx & larynx
- Trachea & respiratory epithelium
- Lung & blood-air barrier
- Alveolar phagocytes
- Fetal lung

Objectives:

By the end of this unit. The student should be able:

3. to differentiate microscopically between trachea adult & foetal lungs
4. to correlate between the structure of these organs and their functions
5. to know the functions of the blood-air barrier and the alveolar phagocytes

2) DIGESTIVE SYSTEM

ORAL CAVITY

- Lip
- Tongue & taste buds
- Palate and Pharynx

ALIMENTARY TRACT

- Oesophagus
- Stomach & gastro - oesophageal junction
- Small intestine & pyloro-duodenal junction
- Large intestine & appendix Anal canal

DIGESTIVE GLANDS

- Salivary glands
- Pancreas
- Liver & gall bladder

Objectives:

By the end of this unit: The student should be able:

6. to differentiate, microscopically between the different organs of the digestive system
7. to correlate between the histology & physiology of these organs
8. to know some important diseases as peptic & gastric ulcers. Piles & diabetes mellitus

3) ENDOCRINE SYSTEM

- Distribution of endocrine glands
- Pituitary gland
- Neurosecretory cells of hypothalamus
- Suprarenal gland
- Parathyroid gland
- Pineal body

Objectives:

By the end of this unit, the student should be able:

4. to know the microscopically picture of each gland
5. to correlate between the Histology & Physiology of these glands
6. to know the mechanism of hormonal control of each gland and what is meant by the feedback mechanism

4) DIFFUSE NEURO-ENDOCRINE SYSTEM

General characteristics of its cells Distribution & function

Objectives:

By the end of this unit, the student should know

3. the sites of its cells in different organs
4. the functions of these cells & their role in the organs where they are found

5) URINARY SYSTEM

- Kidney & blood supply of urineferous tubule
- Blood renal barrier
- Juxta-glomerular complex
- Ureter, Urinary bladder & Urethra

Objectives:

By the end of this unit, the student should be able:

3. to differentiate between the different organs of the urinary system
4. to correlate between the histology & Physiology of the kidney
5. to know some diseases as renal failure, diabetes insipidus and the relation between renal diseases and hypertension & anemia.

6) MALE GENITAL SYSTEM

- Testis & blood-testis barrier
- Spermatogenesis & spermiogenesis
- Ultrastructure of sperm
- Vasa efferentia. Epididymis, Vas deferens & spermatic cord
- Seminal vesicles, prostate & penis
- Semen & number of sperms

Objectives:

By the end of this unit: the student should know:

5. microscopical differentiation between its organs
6. correlation between its histology & physiology.
7. Hormonal control & factors affecting spermatogenesis
8. Clinical terms as infertility, oligospermia, azospermia, senile prostate & prostatic carcinoma

7) FEMALE GENITAL SYSTEM

- Ovary
 - Fallopian tube
 - Uterus & menstrual cycle
 - Placenta
 - Vagina & mammary gland

Objectives:

By the end of this unit: the student should know

3. histology of its different organs
4. correlation between its histology & physiology
5. hormonal control of its organs
6. some ways of contraception as the safe period & the action of contraceptive pills

8) EYE & EAR

Histology of the different components of the eye ball, eye lid and histology of the ear.

Objectives:

By the end of this unit. The student should be able:

4. know the cornea. Retina eye lid, under the microscope
5. to know the cochlea & the organ of corti.
6. To know some terms as cataract & glaucoma

9) CENTRAL NERVOUS SYSTEM

- Spinal cord & tractology
- Medulla oblongata
- Pons
- Mid-brain
- Cerebellum & cerebellar peduncles
- Cerebrum
- Pathways, lemnisci & MLB
- Deep origin of cranial nerves
- Meninges
- Brain barriers

Objectives:

By the end of this unit, the student should be able:

4. to identify the different levels of spinal cord & brain stem, cerebellum & cerebrum.
5. To draw the detailed structure of the mentioned levels
6. To correlate between histology, Anatomy & physiology of central nervous system.

IV. TEACHING METHODS:**IV-1: METHODS USED:**

3- Lectures (48 hours = 2 lectures / week for 24 weeks)

4- Practical sections (72 hours = 3 hours / week for 24 weeks)

IV-2: METHODS FOR DISABLED STUDENTS:

No special arrangements are available

IV-3: TEACHING PLAN:**Lectures:**

The students are divided into two groups in two large lecture halls in the Faculty buildings for two lectures weekly. The first lecture is on Saturday from 8 – 9 am. & the second one is on Tuesday from 9 am – 10 am.

Practical classes:

Students are divided into five (5) big groups on 5 days of the week (Saturday – Wednesday). Each big group is subdivided into four (4) smaller groups distributed on the 4 available labs. (Each small group is about **80 – 95 students**) ??? . **Each 3 students share one microscope.**

Time plan:

Item:	Time schedule	Teaching hours	Total hours
Lectures	Saturday 8 – 9 am Tuesday 9 – 10 am	2 hours weekly for 24 weeks	48 hours
Practical classes	Daily on 5 days weekly from Saturday – Wednesday) from 11 am – 2 pm	3 hours weekly for 72 weeks	72 hours
TOTAL			120 hours

V-1: ATTENDANCE CRITERIA:

The minimum acceptable attendance is 75 %. Students need to attend at least 60 % in order to set for the final examination

V-2: ASSESSMENT TOOLS

TOOL	PURPOSE
Written examination	Assessment of knowledge and understanding
Oral Examination	Assessment of knowledge and understanding and attitude
Practical examination	Assessment of practical skills in diagnosis of different organs under the microscope and labeling of drawings of CNS sections at various levels in the spinal cord & brain stem
Practical notebook	Assessment of their attendance understanding and drawing skills

V-3: TIME SCHEDULE:

- **MID-YEAR EXAMINATION** : Written examination held twice a year in for all students
- **FINAL EXAMINATION** : At the end of the academic year for all students

V-4: GRADING SYSTEM:

Examination:		Marks allocated
Mid-year examinations		30
Final examination	Written	60
	Oral	30
	Practical	30
TOTAL		150

- The minimum passing score is 90 marks provided at least 18 marks are obtained in the final written examination

- Passing grades are: EXCELLENT $\geq 85\%$, VERY GOOD 75- <85%, GOOD 65- <75% and FAIR 60- <65%.

V-5: EXAMINATION DESCRIPTION

Examination		Description	Marks
Mid-year	Written	The student is allowed 1 ½ hours to answer short questions	30 marks
Final exam	Written	The student is allowed 3 hours to answer long and short essay type questions in addition to drawing questions	60
	Oral	One oral examination station	30
	Practical	CNS labeling diagrams of various levels	10
		Spotting slides	20
Total			150

VI-1 BASIC MATERIALS :

- Department books available for students to purchase from different bookshops at the faculty
- Histology for undergraduate medical students: M. Abdel - Hafez & N. Mostafa
- Atlas of histology for undergraduate medical students: M. Abdel - Hafez & N. Mostafa
- Histology for medical students: Zakaria Abdel - Hamid
- Overhead projections , slides and computer presentations used during teaching

VI-2 Suggested Materials :

- CD-Rom containing topics in the curriculum provided with photomicrographs of these topics
- Basic histology Junqueira, L.C.
- Atlas of histology: Di Fiore
- Functional Histology (Wheater's) Text & Atlas of Histology
- Gartner & Hiatt Atlas of Histology
- Cormack concise Textbook of Histology

Cairo University
Faculty of Medicine
MEDC

Course specifications**Course title :****Computer****Allocated marks:** no marks; course is mandatory**Course duration:** 20 weeks of teaching; with a final end of course/year examination**Total teaching hours:** 124 hrs (8 hours/student)**Course director:** Dr. El-Sayed Abdallah
Practical/small group sessions: 4 hrs Lectures: 4 hrs**Teaching staff:** 1 Lecturer, 2 trainers

I. AIM - Objectives OF THE COURSE:

- To instill an awareness of the various types of information sources available.
- Provide a technical introduction for computer science and medical information science

II. INTENDED LEARNING OUTCOMES:**II-A: KNOWLEDGE and UNDERSTANDING:*****By the end of the course, students should be able to:***

1. Define each part of computer hardware and its function.
2. The basics of how computers operate, with an emphasis on knowledge of practical issues (storage devices, RAM, types of printers etc.)
3. Define the use of each office program
4. Have a basic understanding of various computer applications in medicine - for instruction, information managing, computer based medical record, etc.

II-B: PRACTICAL SKILLS:***By the end of the course, students should be able to:***

5. Tolerate working in MS-WINDOWS
6. Use of WORDPROCESSOR in normal campus life.

II-D: GENERAL SKILLS:***By the end of the course, students should be able to:***

7. Be familiar with computer and its updates.

III. COURSE CONTENTS:

TOPIC		% total hrs	No. of hrs		
			TOTAL	Lectures	Practical/ small groups
1	General Principles	50%	4	4	0
2	Word processing	50%	4	0	4
TOTAL		100	8	4	4

Introduction to computers

- Historical background:
 - The student will learn briefly the historical development of computers and the evolution of digital world.
- Why should I bother learning?
- What can a computer do?
 - In general
 - A computer is a machine, which knows nothing. Yet it is extremely fast in calculations, it has an enormously strong and capacious memory and it doesn't get bored repeating things.
 - For me:
 - Student
 - Textbooks in digital form
 - Demonstrations: digital videos, simulators
 - Internet search
 - Physician
 - Keeping records
 - References on CD's
 - Continous medical education
 - Researcher
 - Searching the literature
 - Statistical analysis
 - Presentations
 - Lecturer
 - Presentations
 - Keeping up to date
- What are the various computer components and accessories?
 - CPU, BIOS, RAM
 - Input devices: Keyboard, Mouse, Pen, scanner etc...
 - Output devices: Printer, Sound, Monitor, Datashow etc...
 - Storage dedvices: Hard disk, Floppy, CD, Flash etc...
- Role of Software
 - System
 - Various operating systems
 - What is the system responsibility
 - Applications
 - Word processing
 - Database
 - Statistics
 - Presentations
 - Internet and communication
 - Other

- Protecting my computer from virus threats
 - What is a virus anyway
 - Why are there viruses
 - How to defend myself
 - Keeping updated

Introduction to Word:

- Advantages of using computers instead of typewriter
- Basic terminology
 - Document, page, paragraph, line, SPACE
 - Font
- Using the keyboard
- Typing a document
- Editing and formatting a document
 - Undo and redo
 - Font size, type and color
 - Emphasizing particular words
 - Alignment
 - Copy, cut and paste
- Tables
- Simple drawings
- Inserting a picture
- Saving a document
 - Computer Assisted Instruction

IV. TEACHING & LEARNING METHODS:

IV-A: METHODS USED:

1. Lectures
2. Practical and small group sessions:
Practical training
3. Online material:
A hint for further self-learning

IV-C: TEACHING PLAN:

Lectures:

Clinical and small group sessions:

Computer Labs at MEDC on Thursday from 9:00 am to 3:00 pm

Online material;

Teaching at KasrAlainy eLearning Portal <http://elearning.kasralainy.com>

Time plan:

Item:	Time schedule	Teaching hours	Total hours
Lectures	Twice per year	2 Lectures x 2 hrs	4 hrs
Practical courses	Once weekly each 2 hours for 20 weeks	2 Sessions x 2 hr	4 hrs
TOTAL			8 hrs

V. TEACHING AND LEARNING FACILITIES:

Facilities used for teaching this course include:

LECTURE HALLS:**PRACTICAL FACILITIES:**

9. 1 Internet Lab at MEDC is available.

SKILLS LAB/ MODELS:

- 15 Computers
- High bandwidth Internet 512 KB/Sec
- LAN connection with MEDC
- 1 Projector

VI. STUDENT ASSESSMENT:**VI-A: ASSESSMENT TOOLS:**

TOOL	PURPOSE
Practical examination	Assessment of outcomes # 5,6

VII. LEARNING AND REFERENCE MATERIALS:**VI-A: BASIC MATERIALS:**

- Computer presentations used during teaching.

VI-B: SUGGESTED MATERIALS:

- KasrAlainy e-Learning website

Cairo University
Faculty of Medicine
Department of Psychological Medicine

Course Specifications

Course Title:

Psychology and Behavioral Sciences

2nd Year of M.B. & B.Ch. Program 2005-2006
Approved 2004-2005

Allocated marks: 50

Course Duration: 1 academic year (September-May)

Total teaching hours: 30 hours

Lectures 22.5/Small groups sessions 7.5 hours

Course Director: Professor Doctor Fatma Moussa
Head of Department of Psychological Medicine

Teaching Staff: 17 Professors
3 Assistant Professors

Aim of the Course:

1. To support acquisition of basic, knowledge of normal psychological & mental functioning.
2. To study the psychological development life cycle from birth up to senility (its biological basis & psychosocial aspects).
3. To provide students with an appropriate background of ethics needed throughout their program & career.

LOs of Course Of Psychology & Behavioural Sciences 2nd year

By the end of the course students should be able to:

I Knowledge understanding:

1. Described the normal psychological & mental functions, their biological representation & social contributions.
2. Explain the interconnections of mental functions including intelligence, personality & behavior.
3. Explain the human life cycle from a psychological point of view.
4. Describe causes, types, manifestation & management
5. Describe the principles of doctor patient relationship according to ethical & legal principles of medical profession.

II. Practical skills:

1. Test simple mental functions including intelligence.
2. Delineate normal from abnormal psychological functioning.
3. Comment on personality traits.

III. General skills & attitudes:

1. Be able to behave appropriately with colleagues, workers & patients according to ethical standards.
2. Have a critical attitude towards media & its handling of medical issues including psychiatric problems, criminal responsibility and prevention.
3. Illustrate models of doctor patients relationship.
4. Understanding the goals of improving the style of life based on psychological background.

1. Course Contents:

1st – Topics

Topic	% Total Hrs	No. of Hrs		
		Total	Lectures	Practical/small groups
1. Introduction & basic considerations		1	1	-
2. Psychological & mental functions		7.30	6	1.30
3. Intelligence & Personality		4	2.30	1.30
4. Life cycle		3.30	3.30	-
5. Medical Psychology		2	2	-
6. Social		2	2	-
7. Ethics		2	1	1
8. Doctor patient relationship		3	1.30	1.30
9. Stress & its relations to illness		2	1	1
10 Dynamic Psychology		2	1	1
11. Consciousness, biological rhythms including sleep from a psychobiological perspective		1	1	-
Total		30 hrs	22.30 hrs	7.30 hrs

Teaching and Training Methods:

Methods used:

5. Lectures.
6. Small group sessions.

Methods for disabled students:

Not available.

Teaching Plan:

1. Lectures:

The lecture hall at the building of MEDC, 2nd floor. Two groups of students attend lectures either on Saturday or Tuesday from 14.00pm – 15.00 pm.

2. Small group sessions:

After attending the lectures there will be small group sessions at the outpatient clinic to apply what have been learned.

Time Plan:

1. Lectures

One hour weekly for two groups of students (Saturday & Tuesday)

Total 22.30 hrs.

3. Small group sessions

After ending the theoretical course of each term, each group will be subdivided into subgroups to attend the psychiatric outpatient clinic to apply testing of mental functions, delineating abnormal mental functions and demonstrating models of doctor patient relationship.

Total 7.30 hrs.

Teaching and Learning Facilities:

Lecture Hall: all the building of MEDC, 2nd floor.

Equipments to make the lecture illustrative are used.

Small group sessions: Each group of the main two is further subdivided into three (6 subgroups) will attend outpatient & inpatient training every Thursday or other days according to their schedule.

Library: For the undergraduates.

Skill and Attitude Acquisition: concerning mental examination, general and focused.

STUDENT ASSESSMENT:

Attendance criteria: according to faculty regulations.

Assessment tools:

Tool	Purpose
Written examination	Assessment of knowledge and understanding.
Log book	Assessment of skills and attitudes

Assessment schedule: final examination at the end of the academic year for all students.

Grading system:

Examination	Marks Allocated
Final examination	40
Log book	10
Total	50

The minimum passing score is 30 marks out of total 50.

Passing grades are:

- Excellent > 85%
- Very good 75% - <85%
- Good 65% - <75%
- Fair 60% - <65%

Log book is mandatory to attend the final exam.

Examination description

1. 1. Log book: each student must spend 7.30 hrs to get trained in doing simple mental examination (general and focused), delineate abnormal mental functioning & demonstrating models of doctor-patient relationship. Besides applying ethics in practice.
2. Final examination: 1 hour examination at the end of the academic year, short answer questions.

Total marks: 50

LEARNING AND REFERENCE MATERIALS:**1. Basic materials:**

- Department notes by staff members available at the department.
- Over head projector slides.
- Computer presentations.
- Possible video tapes.

2. Suggested materials:

- Psychometry lab.
- Sleep lab.
- Case studies to demonstrate ethical and legal aspects of their future medical profession.

Cairo University
Faculty of Medicine
Department of Microbiology & Immunology

Course specifications

Course title:

MICROBIOLOGY AND IMMUNOLOGY

Third year of M.B. & B.Ch. program

2004/2005

(approved *Final draft*)

Allocated marks: 200 marks

Course duration: one academic year

Total teaching hours: 100 hrs

Lectures: 54 hrs Practical/Small group sessions: 46 hrs

Course director: Prof. Dr. Reda Michael

Head of Microbiology and Immunology Department

Teaching staff: 34 professors, 2 assistant professors, 5 lecturers and 14 Assistant lecturers & lab facilitators

I. AIM OF THE COURSE:

- To educate students about the basic features of general bacteriology, virology and mycology and to provide students with an understanding of the immune system, its protective functions and its role in the patho-physiology of infectious and non-infectious diseases
- To familiarize students with the common infections and diseases of medical importance, their microbial causes, as well as laboratory diagnosis, treatment, prevention and control of such diseases
- To enable the students to practice the principles of sterilization and infection control.

II. INTENDED LEARNING OUTCOMES:

By the end of the course, students should be able to:

	Knowledge and Understanding	Teaching	Assessment
1	Illustrate general bacterial morphology, physiology and genetics	1	1
2	Understand the host parasite relationship and microbial pathogenesis	1,3,5	1,7,8
3	Explain the physiology of the immune system, its beneficial role, as well as its detrimental role in hypersensitivity, autoimmunity and transplant rejection	1,2,3	1,2,7,8

4	Describe the morphology, culture, antigenic structure and virulence factors of microorganisms of medical importance	1,3,4	2,7,8
5	Recognize the most important infectious clinical conditions and outline the diagnosis, treatment, prevention and control of the most likely organisms causing such diseases	1,2,3,4	2,8
6	Describe the most important methods of decontamination and principles of infection control	2,3	4,7,8
7	Describe the basics of antimicrobial uses and resistance	1	1
8	Understand the impact of molecular technology in microbiology and immunology	3,4	1,2

	Practical Skills	Teaching	Assessment
9	Identify medically important bacteria based on microscopic examination of stained preparations	2	3
10	Perform a Gram stain and a Ziehl-Neelsen stain and identify, according to morphology and characteristics, stained preparations	2	4
11	Identify culture media and biochemical tests commonly used for bacterial identification and distinguish positive and negative results	2	3
12	Perform hand wash and control of steam sterilization	2	4
	General Intellectual Skills	Teaching	Assessment
13	Interpret results of microbiological, serological and molecular tests	3,4	4,6
14	Interpret microbiological, immunological and molecular reports	3,4	4,6
15	Formulate a systematic approach for laboratory diagnosis of common infectious clinical conditions and select the most appropriate and cost-effective tool leading to the identification of the causative organism	2,3,4	6,7
16	Evaluate according to evidence the causal relationship of microbes and diseases	6	2,7,8
17	Categorize a microorganism as a bacterium, virus or fungus according to standard taxonomy	5	9
18	Report and appraise a concise scientific activity according to standard scientific thinking and integrity	5,6	9
19	Appreciate the danger of handling and use of infectious agents on community and environment as a part of their ethical heritage	1,3,5,6	8,9

III. COURSE CONTENTS:

III-A: TOPICS:

TOPIC	No. of hrs		
	TOTAL	Lectures	Practical/ small groups
1 General Bacteriology morphology and structure, classification of bacteria, bacterial physiology and growth, bacterial genetics, gene cloning general methods for identification of bacteria		5	8
2 Sterilization and Disinfection and Antisepsis		1	2
3 Antimicrobial Chemotherapy		1	
4 Immunology Components of the immune system, innate immunity, complement, acquired immunity (humoral and cell mediated), protective immunity, tumour immunology, hypersensitivity, autoimmunity, transplantation immunology, important antigen-antibody reactions, immunodeficiency		15	10
5 Systematic Bacteriology Staphylococci, streptococci, neisseriae, Corynebacterium, <i>Listeria</i> , actinomycetes, <i>Bacillus</i> , <i>Clostridium</i> , <i>Mycobacterium</i> , enterobacteriaceae, <i>Vibrio</i> , <i>Pseudomonas</i> <i>Yersinia</i> , <i>Francisella</i> , <i>Pasteurella</i> , <i>Hemophilus</i> , <i>Bordetella</i> , <i>Brucella</i> , <i>Bacteroides</i> , legionellae, mycoplasmas, spirochaetes, rickettsiae and chlamydiae		14	20
6 General and Systematic Mycology		2	2
7 General virology		1	
8 Systematic virology Picomaviruses, arthropod-borne and rodent-borne viruses, reoviruses, rotaviruses, orthomyxoviruses, paramyxoviruses, Rubella virus, Rabies virus, retroviruses, adenoviruses, herpesviruses, poxviruses, parvoviruses, hepatitis viruses, tumour viruses, slow viruses and prion diseases		10	
9 Infection Control & Nosocomial Infections		2	2
10 Applied Microbiology		2	2
11 Host- parasite relationship, causal effect, virulence factors and pathogenesis		1	
TOTAL		54	46

III-B: PRACTICAL CLASSES / SMALL GROUP SESSIONS:

1. Staining by Gram stain and Ziehl-Neelsen stain
2. Sterilization: autoclave, hot air oven, bacteriological filters
3. Culture media: commonly used media such as nutrient agar, blood agar, MacConkey's medium, Löffler's medium, Lowenstein-Jensen medium, anaerobic culture media, TCBS, triple sugar iron agar
4. Biochemical Reactions: sugar fermentation tests, indole test, MR test, VP test, tests for enzyme production (catalase, coagulase, urease)
5. Serological Tests: slide agglutination, tube agglutination, single radial immunodiffusion, double diffusion (Elek's test), toxin-antitoxin neutralization (ASOT)
6. Slides: *Staphylococcus*, *Streptococci*, pneumococci in tissues, *Neisseria*, *M. tuberculosis*, *M. leprae*, *Bacillus anthracis*, *Clostridium tetani*, *C. diphtheriae*, diphtheroids, gram-negative bacilli, *Klebsiella* in tissues, *Spirochaetes*, *Candida albicans*, mixtures
7. Hand Wash and control of steam sterilizer
8. Case studies: systematic approach, formulation of investigation of work-up and lines of management
9. Microbiological (serological and molecular) test results, photos and reports for analysis and commenting
10. Practice of reporting (descriptive and analytical) on demonstrated activities

III-C: BUREAU HOURS:

1. Focus on host- parasite relationship, causal relationship, critical thinking and scientific integrity
2. Applied microbiology and safe handling: ethical issues and responsibilities
3. Reporting and communicating: 2 ways channel
4. Categorizing according to taxonomy and self learning

IV. TEACHING & LEARNING METHODS:

IV-A: METHODS USED:

1. Lecture
2. Practical class
3. Small group discussion with case study and problem solving
4. Quiz
5. Micro assignment
6. Bureau hour (Tutorial)

IV-B: METHODS FOR DISABLED STUDENTS:

No special arrangements are available

IV-C: TEACHING PLAN:

1. **Lecture** (fully illustrated with drills): Students are divided into two large groups (A and B) for lectures. The lecture halls are located on the second floor of the Medical Education Building. One-hour-lectures are held twice weekly (Saturday: 9:00, repeated 10:00, and Sunday: 8:00, repeated 9:00). Lectures are given throughout the academic year.
2. **Practical class and small group discussions:** Students are divided into 10 groups. Each group has one practical class per week throughout the academic year (11:30-1:00 or 1:30-3:00). Students of each group are first divided into two sub-groups for explanation of practical class and revision of relevant theoretical material. Each sub-group is further subdivided into two (total of four small groups) for practical demonstration and discussion.
 - Quiz (formative)
3. **Out of practical class hours:**
 - Micro assignment
 - Bureau hour (Tutorial)

V. TEACHING AND LEARNING FACILITIES:

Facilities used for teaching this course include:

Lecture halls

Data shows & computer assistance

Laboratories (with sinks)

Small group areas (rooms) equipped with computer assistance

Microscopes

VI. STUDENT ASSESSMENT:

VI-A: ATTENDANCE CRITERIA:

Students should attend no less than 75 % of practical classes and/or small group sessions as an essential prerequisite to be legible for the final exams

VI-B: ASSESSMENT TOOLS:

TOOL	PURPOSE
Written Examination:	Assessment of knowledge and understanding (outcomes #1-7) and intellectual skills (outcome # 13-19)
Oral Examination:	Assessment of knowledge and understanding (outcomes #1-8) and intellectual skills (outcome #20)
Practical Examination:	A. Assessment of practical skills (outcomes #8-12) B. Intellectual skills (outcomes #16-19) <ol style="list-style-type: none"> a. Station b. Objective Structured Test (OST) c. Photos d. Report
Quiz	

Micro-report	
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VI-C: ASSESSMENT SCHEDULE:

- Mid-year Examination: held for all students at end of first term (January)
- Final Examination: held for all students at end of second term (May-June)

VI-D: GRADING SYSTEM:

Examination:		Marks allocated	
Mid-year Examination	Written	40 marks	
Final Examination	Written	100 marks	
	Oral	20 marks	
	Practical	40 marks	15 Stations 5 OST 5 Photos 5 Report 5 Quiz 5 Microreport
TOTAL		200 marks	

- The minimum passing score is **100 marks** provided at least **30 marks** are obtained in the final written examination.
- Passing grades are: EXCELLENT $\geq 85\%$, VERY GOOD 75- <85%, GOOD 65- <75% and FAIR 60- <65%.

VI-E: EXAMINATION DESCRIPTION:

Examination	Type	Description	Marks
Mid-year Examination	1. Written	A 2-hour written paper composed of short essay-type questions and MCQs	40 marks
Final Examination	2. Written	A 2-hour written paper composed of short essay-type questions, MCQs and Case study	100 marks
	3. Practical	15 spots including slides, culture media, biochemical reactions, serological tests and instruments (descriptive structured)	15 marks (1 mark for each spot)
	4. OST	Hand wash, Gram stain, Ziehl...etc. According to check list	5 marks
	5. Photos		5 marks
	6. Report		5 marks
	7. Quiz	Focus subject	5 marks
	8. Oral	One oral examination station with 2 staff members (10-15 minutes: 4-5 questions)	20 marks
	9. Report	Micro-assignment	5 marks

TOTAL			200 marks
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VII. LEARNING AND REFERENCE MATERIALS:

VI-A: BASIC MATERIALS:

- ESSENTIAL MEDICAL MICROBIOLOGY AND IMMUNOLOGY: Department theoretical books and practical manual (3 volumes) available for students to purchase from different bookshops at the faculty
- Overhead projections, slides and computer presentations used during teaching
- Microscope slides, laboratory instruments and items

VI-B: SUGGESTED MATERIALS:

- Jawetz, Melnick and Adelberg's *Medical Microbiology*
- Janeway and Travers Immunobiology: The immune system in health and disease
- Biology Web Site References:
 - asmnews@asmusa.org
 - <http://www.phage.org/black09.htm>
 - http://www.microbe.org/microbes/virus_or_bacterium.asp
 - <http://www.bact.wisc.edu/Bact330/330Lecturetopics>
 - http://whyfiles.org/012mad_cow/7.html
 - <http://www.microbelibrary.org/>
 - <http://www.hepnet.com/hepb.htm>
 - http://www.tulane.edu/~dmsander/Big_Virology/BVHomePage.html
 - <http://www.mic.ki.se/Diseases/c2.html>
 - <http://www.med.sc.edu:85/book/welcome.htm>
 - http://www.biology.arizona.edu/immunology/microbiology_immunology.html

**Faculty of Medicine
Community Medicine & Public Health Department - Cairo University**

Course Specifications

Course Title:

Community Medicine & Public Health

3rd year of M.B. & B.Ch. Program

2004-2005

Basic Epidemiological Methods and Environmental Sanitation

Allocated marks: 50 marks
Course duration: one academic year
Total teaching hours: 32 hours
 ⊙ Lectures: 28 hrs
 ⊙ Practical/ small group: 4 hrs

Course Director: Prof.Dr. Salwa Abdel Azeim
Professor & Chair of Community Medicine & Public Health Department

Teaching Staff: 2 Professors, 2 Assistant Professors, 1 Lecturer, 12 Assistant Lecturers and 12 Demonstrators

I: Course Aims

1- To introduce the student to the basics and principles of public health; including:

- a. the definitions of common terminologies and meanings used in public health practice ;
- b. health indicators and statistical principles of survey studies;
- c. the principles of sanitary environment and the ability of identification of environmental hazards.

2- To prepare a physician who would become an advocate for preventive public health programs and resources.

II: Course Intended Learning Outcomes:

1- Knowledge and Understanding

By the end of the course, the student should be able to:

- 1- Describe health, disease, spectrum of health and patterns of care.

- 2- Define and calculate measures of disease frequency and measures of association between risk factors and disease.
- 3- Describe major epidemiological study designs, their advantages and limitations.
- 4- Define the nature, health effects and sources of environmental risks.
- 5- Describe the principles of waste management in the community and in health care settings .
- 6- Describe simple methods for data collection and presentation.

2- Professional and Intellectual Skills.

By the end of the course, the student should be able to:

- 7- Appropriately use data and statistical methods for problem identification and resolution.
- 8- Calculate and interpret vital rates.
- 9- Construct and interpret tables and graphs.
- 10- Identify environmental risk factors.

3- Attitude:

By the end of the course, the student should be able to:

- 11- Appreciate the utilization of data in medical and social research.

III- Course Content

Topic	% total hrs	Teaching hours		
		Total	Lectures	Practical
Environmental health	56	18	14	4
Epidemiological Methods	16	5	5	
Medical statistics	28	9	9	
TOTAL	100	32	28	4

Environmental health: Environmental Sanitation: Concepts and definitions; Hazards and risks and sanitation; Types of pollutants; Waste management; Food and water safety; Environmental risk assessment and management;

Epidemiological Methods: Definition and uses of epidemiology;-Epidemiological Models:-Types of study design;-Screening tests;-Measurement of disease risk factors;

Medical statistics: Definitions; Collection of data; Presentation of data; Descriptive statistics; Measures of variability; Normal distribution curve;

IV- Teaching and Learning Methods

IV-A: Methods used:

- Lectures
- Field visit

IV-B: Methods for disabled students

No special arrangements are available.

IV-C: Teaching plan:

Lectures: provided in two of the grand lecture halls at the faculty once weekly; on Mondays from 10-11am. Students are divided in two groups where the same lectures are given simultaneously.

Field Visit: Students are divided into small groups (30 per group) and attend one field visit to one of the selected sites. They are accompanied by Assistant Lecturers and are guided by a practical book. Throughout, students are provided with practical notes that include: outline of the field visit, checklist of items to be seen, questions the student could address to the local staff in the field site and short questions related to the curriculum that stimulate the leaning activity.

Time plan:

Item	Time schedule	Teaching hours
Lectures	Once per week on Mondays 10-11 am	1 st term -environmental health (14 hrs) 2 nd term -epidemiological methods (5 hrs) -medical statistics (9 hrs)
Field visit	One field visit	4 hrs
Total		32 hours

V: Teaching and Learning Facilities:

Facilities utilized include:

- Two lecture halls in the main building.
- Selected field training sites with free transportation:
 - *2 Water purification plants: (El Roda and El Fostat)
 - *Station for Environmental Surveillance
 - *Central Lab in MOHP

VI: Student assessment

VI-A: Attendance criteria

The minimum acceptable attendance is 75% .Students who fail to attend the required stated percentage will not be allowed to take the exam.

VI-B: Assessment Tools:

Tool	Purpose
Written examination; including problem solving questions	Assessment of knowledge, understanding and skills (outcomes 1-10)*
Practical book and field visit report	Assessment of ILOs # 4,5,10 and 11

*Problem solving question(s) cover ILOs 6-10

VI C: Assessment schedule:

- Midyear examination held at the end of first term .Students must give in their log book in order to be admitted to the examination.
- End of year examination.

VI D: Grading system:

Examination	Marks Allocated
Field visit:	
(a) attendance	2
(b) practical book and field visit report	3
Midyear examination	10
End of year examination	35
Total	50 marks

The minimum passing score is 30 marks provided at least 10.5 marks are obtained in the final written examination.

VI-E Examination description:

- 1- Practical book: must be completed during the term and every student should have attended one field visit , answered the case studies and the problems and written a visit report .
- 2- Examinations:

Mid term exam: One hour including 3-5 questions including short questions and written problem solving questions.

End of year written exam: One hour including 3-5 questions including short questions and written problem solving questions.

VII: Learning and Reference Materials:

VII A: Basic department books:

Theoretical and practical available for purchase from faculty bookshops.

Overhead projections and slide presentations used during teaching.

VII-B Suggested materials:

- Public Health & Preventive Medicine: Maxcy – Rosenau- Last
- Essentials of Public Health: L. J. Donaldson, R. J. Donaldson
- Communicable Disease Epidemiology and Control: Roger Webber, London School of Hygiene and Tropical Medicine
- Control of Communicable Diseases in Man: Abram S. Beneson, American Public Health Association

Cairo University
Faculty of Medicine
Department of Parasitology

COURSE SPECIFICATIONS
COURSE TITLE
MEDICAL PARASITOLOGY
THIRD YEAR of M.B. & B.Ch. PROGRAM

Allocated marks	: 150 marks
Course duration	: 30 weeks (one academic year) (September → May)
Total teaching hours	: 60 hours lectures + 60 hours practical classes
Course director	: Prof. Dr. Olfat M. El Matarawy Head of Parasitology Department
Teaching staff	: 20 professors, 8 assistant professors 3 lecturers and 6 assistant lecturers

I. AIM OF THE COURSE:

- To provide students with knowledge concerning biological, epidemiological and ecological aspects of parasites causing diseases to humans.
- To enable students to understand the pathogenesis, clinical presentations and complications of these diseases.
- To enable students to reach diagnosis and know the general outline of treatment, prevention and control of parasitic infections.
- To provide students with adequate knowledge about endemic parasites and national parasitic problems.

II. INTENDED LEARNING OUTCOMES:

II-1: Knowledge and understanding :

By the end of the course, students should be able to:

- 1- Describe the world distribution of important parasitic infections and explain the factors determining such distribution and their socioeconomic impact on the community.
- 2- Describe the morphology and life cycle of parasites of medical importance.

- 3- Describe pathogenesis, clinical signs and symptoms and complications of parasitic infections.
- 4- Outline the treatment for various parasitic infections and mention the methods of prevention and control of infection on individual and community levels.
- 5- Discuss the methods of recovery of parasites from environmental samples and their culture methods.
- 6- Describe common arthropods of medical interest and explain their medical importance and methods of combat.
- 7- Outline fundamental immunology and molecular biology applicable in parasitology to achieve better and accurate diagnosis.
- 8- Enumerate complications associated with manipulation of infectious materials, relevant to parasitology, especially in hospitals.

II-2: Professional and Laboratory Skills

By the end of the course, student should be able to

- 9- Identify microscopically different parasites as well as their different stages (eggs, cysts and larvae) or any of their body parts (segments, hooks and scolices) in urine or stool samples.
- 10- Diagnose haemoparasites detectable in blood films.
- 11- Identify parasites and their different stages through examination of mounted slides.
- 12- Identify different parasites in tissue sections and demonstrate their reactions in such tissues by naked eye (Jars).
- 13- Identify arthropods of medical importance through examination of whole body or any part in mounted specimens.

II-3: INTELLECTUAL SKILLS

By the end of the course, student should be able to

- 14- Interpret the most important signs and symptoms of important parasitic infections of endemic character (using case study).
- 15- Choose the best-suited laboratory investigations for each parasite and interpret the clinical and laboratory findings to reach a proper diagnosis.

II-4: General skills & Attitudes

By the end of the course, student should be able to

- 16- React positively with any parasitic problem on a national level. i.e. Bilharziasis or filariasis.
- 17- React positively with national campaigns, which are conducted to combat endemic parasitic infections by M.O.H.P.
- 18- Work in a multi disciplinary health care team to solve parasitic problems in the community
- 19- Respect the role of staff and co-staff members regardless of degree or occupations.

III. COURSE CONTENT

III-1: TOPICS

Topics	% Total hrs.	No of hours		
		Total	Lecture	Practical
1-Introduction to parasitology	1	1	1	
2-Helminthology, Trematodes and Cestodes	19	23	11	12
3-Introduction to Nematodes, intestinal and tissue nematodes	27	32	14	18
4-Protozoology, Intestinal, Urogenital blood and Tissue protozoa	27.5	33	18	15
5-Immunology and molecular parasitology	4	5	5	-
6-Entomology	21.5	26	11	15
	100%	120	60	60
			50%	50%

I : Introduction to parasitology :

-Host-parasite relationships – types of parasites – types of hosts.

II : Helminthology

-Introduction to trematodes

Fasciola species-Heterophyes heterophyes –Paragonimus westermani-

Schistosoma species.

-Introduction to cestodes

Diphyllobothrium species-Taenia species–Echinococcus species –Multiceps multiceps –Hymenolepis species –Dipylidium caninum

III : Introduction to nematodes

A- Intestinal nematodes : Ascaris lumbricoides –Trichuris trichiura-Enterobius vermicularis- Hook worms –Trichostrongylus colubriformis –Strongyloides stercoralis –Capillaria philippinensis –Trichinella spiralis

B–Tissue nematodes : *Dracunculus medinensis* –*Wuchereria bancrofti* –*Brugia malayi* –*Loa loa*
– *Onchocerca volvulus* –*Mansonella ozzardi* –*Mansonella perstans* – *Larva migrans*
(visceral and cutaneous).

IV :Protozoology :

-Introduction to medical protozoology

A- Intestinal protozoa : *Entamoeba histolytica* –Commensal amoebae –*Balantidium coli* –
Giardia lamblia –*Cryptosporidium parvum* –*Cyclospora cyetanensis* –*Isospora belli*

B–Urogenital protozoa : *Trichomonas vaginalis*

C–Blood protozoa : *Plasmodium* species –*Babesia*

D–Blood & tissue protozoa :*Leishmania* – *Trypanosomes* –*Toxoplasma gondii* –
Potentially pathogenic free living amoebae –*Microsporidia*

V : Immunology and molecular parasitology

-As regards types of immunity, mechanisms, vaccination, immunopathology of parasitic infections,
parasite immune evasion and immunodiagnosis of parasitic infections.

-Molecular parasitology as regards applications of molecular technology in parasitology.

VI : Entomology

-Introduction to medical Entomology

-Mosquitoes –*Phlebotomus papatasi* –*Simuliidae*, *ceratopogonidae* & *Tabanidae*

-*Muscidae* –*Calliphoridae* –*Oestridae*–*Myiasis* –*Fleas* –*Lice* –*Bugs* –*Ticks*

-*Mites* –*Scorpion* –*Cyclops* –Control of arthropods & Insecticides.

Practical Classes:

-Helminthology :

*** Microscopic slides:**

- Mounts for adult parasite & its body parts (hooks, scolices or segments).
- Mounts for parasitic stages (eggs, larvae or cysts).
- Biopsy and tissue sections containing various parasites

*** Jars (gross picture)**

- Preserved parasites
- Pathological specimens (infected body parts)

-Protozoology

*** Microscopic slides:**

- Stages of the parasite stained with different stains.
- Biopsy and tissue sections
- Stages of the parasite in biological specimens

-Entomology

*** Microscopic slides:**

- Mounts for the whole arthropod and its body parts.

*** Boxes (gross picture)**

- Boxes containing adult arthropods.

IV. TEACHING METHODS

IV-1: METHODS USED

- Lectures
- Practical classes (laboratory training)
- Small tutorial groups (in practical classes once per month)

IV-2: METHODS FOR DISABLED STUDENTS

- No special arrangements are available
- Only they can attend the main lab in the first floor

IV-3: TEACHING PLAN:

- Lectures :
 - * Two lectures (one hour each) weekly for 30 weeks (total 60 hours)
- Practical classes :
 - * One practical class (two hours each) weekly for 30 weeks (total 60 hours)
 - * Writing project on some endemic parasitic diseases using staff book, other text books and parasitological websites)

Time plan :

Item:	Time schedule	Teaching hours	Total hours
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Lecture	Twice weekly	One hour	60
Practical & Tutorial	Once weekly	Two hours	60
Total			120

Teaching and learning facilities:

- 1-Lecture halls
- 2-Equipped labs with microscopes, slide projectors, overhead projectors and data show.
- 3-Departmental museum
- 5-Faculty library can be used for projects and textbooks

V. STUDENT ASSESSMENT

V-1: ATTENDANCE CRITERIA:

The minimum acceptable attendance is 60%, students failing to attend that percentage will not be allowed to take the end of year examination.

V-2:ASSESSMENT TOOLS:

TOOL	PURPOSE
Written examination	Assessment of knowledge and understanding. Also intellectual skills (case report) ILOs II-1(1-8) & II-3(14-15)
Practical examination	Assessment of knowledge and understanding and professional skills II 1(1-8) & II 2(9-13).
Oral examination	Assessment of knowledge and understanding & professional skills & attitude II 1(1-8) & II 2(9-13) & II 4 (16-19)

V-3:TIME SCHEDULE:

- Mid year examination : once in January.
- Final examination : once at the end of academic year (May).
- Quiz before Mid year and final exam.

V-4:GRADING SYSTEM:

EXAMINATION		MARKS ALLOCATED
Quiz Mid Year examination	Practical & theoretical	5 x 2 = 10
	Written	25
Final examination	Written	60
	Practical	30
	Oral	20
Project		5

Total	150
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- The minimum passing score is 90 marks provided at least 18 marks are obtained in the final written examination.
- Passing grades are : Excellent $\geq 85\%$, very good 75-<85%, Good 65-<75% and fair 60-<65%.

V-5:EXAMINATION DESCRIPTION:

EXAMINATION		DESCRIPTION	MARKS
Quiz		Identification of 5 projector slides in 10 minutes	5
Mid Year examination		One-hour written paper composed of short essay type questions –MCQs and case description and discussion	25
Project presentation		Writing project on some endemic parasitic diseases provided with illustrations	5
Quiz		Identification of 5 projector slides in 10 minutes	5
Final examination	Written	Two hours written paper composed of short essay type questions –MCQs and case description and discussion	60
	Practical	Spotting of 20 slides, boxes and jars	30
	Oral	Two sessions : One for helmentology & snails for 10 min. One for Arthropodes & protozoology for 10min.	20
Total			150

VI. LEARNING AND REFERENCE MATERIALS

VI-1:BASIC MATERIALS:

- Department Books
 - Text Book
 - Practical Book
 - Atlas
 - Self evaluation guide (book)
- CD-ROM containing illustrated topics in parasitology (animated parasitology).
- Website (See the Annex I)

VI-2:SUGGESTED MATERIALS:

- Parasitological & Tropical Journals
- Text books

Annex I

National Web site

Parasites online : <http://WWW.parasitesonline.net/homepage.htm>

This site is constructed by Dr. Khalifa El Sayed, Assistant professor of Medical Parasitology, Faculty of Medicine, Ain Shams University, Cairo Egypt

International Web site

<http://www.asp.unl.edu>

Official website of the American Society of Parasitologists. Offer information about the society and its activities as well as links to relevant parasitological sites.

<http://www.parasitology.org.uk>

Official website of the British Society for Parasitology. Offer information about the society and its activities as well as links to relevant parasitological sites.

<http://www.dpd.cdc.gov/dpdx>

Useful site for the identification and diagnosis of parasites of public health concern. It provides information about life cycle, geographical distribution, clinical features, diagnosis and treatment for each of the parasites listed. It also includes a parasite image gallery.

<http://www.cvm.okstate.edu/~users/jcfox/htdocs/clinpara/index.htm>

Website of Veterinary Clinical Parasitology Images created by Professor J.Carl Fox of Oklahoma State University. An excellent site with images, keys and other interesting features about parasites.

<http://www.parasite.biology.Qiowa.edu>

This website contain 2320 images and information about parasites taken from Dr. Herman Zaiman's publication "A Pictorial Presentation of Parasites". Although the site is password protect, everyone can access it by using the user name "guest and the password visitor".

Clinical Pharmacology
Third year
M.B.BCH. Program
2004/2005

-**Allocated Marks** : 300 Marks

-**Allocated duration**: 24 weeks

-**Allocated hours** : 180 hours

120 hours Lectures.

60 hours Practical, Clinical and Tutorial classes.

-**Course director** : Prof. Dr. Hedayat Tolba

Chairman of Clinical Pharmacology Department.

-**Teaching stuff** : 32 Professors, 3 Assistant Prof., 6 Lecturers.

9 Assistant lecturer & 8 Demonstrators.

I- Aim of the course:

- 1- To provide the basic knowledge about commonly used groups of drugs affecting different body systems and their implications in therapy of disease and health promotion.
- 2- To enable students to understand the safe use of drugs as regards adverse effects, contraindications and drug interactions.

II- Intended learning outcomes:

By the end of the course, students should be able to:

A- Knowledge and understanding:

- 1-Discuss the pharmacokinetic, pharmacodynamic and pharmacotherapeutic properties of different groups of drugs affecting body systems.
- 2-Discuss the adverse and toxic effects, and their management of commonly used groups.
- 3-Give an account on limitations to the use of drugs such as contraindications and drug interactions.
- 4-Define clinically relevant age, sex and genetic related variations that affect response to drugs (P.ILO.2).
- 5-Discuss the pathophysiology of diseases and explain the rational basis for the use of drugs (P.ILO.4).
- 6-Discuss the impact of preventive pharmacology in promoting health and prevent illness (P.ILO.5).
- 7-Define the principles, the indications, the relative advantages and disadvantages of various pharmacotherapy modalities (P.ILO.10).
- 8- Discuss the use of life saving drugs.
- 9-Discuss the role, prevalence and limitations of alternative and complementary therapies commonly in use (P.ILO.11).
- 10-Discuss the principles and applications of gene therapy (P.ILO.12).
- 11-Recognize the rational and general guidelines of the use of drugs in the proper dose in special population such as pediatrics, geriatrics, pregnancy and lactation and in cases of liver and kidney impairment.

12-Define the basis of pharmaco-economics.

B- Professional Skills (Clinical, Practical and Intellectual):

B-1- Intellectual Skills:

- 13- Calculate accurately drug's dosage, bioavailability, plasma half life and volume of distribution in different patient populations.

B-2-Data Acquisition:

- 14-Obtain and record a comprehensive drug history of the patient.
15-Document drug adverse reactions.

B-3- Data analysis and problem solving:

- 16-Observe, record and analyze the effect of drugs on biological tissues

B-4- Practical Skills:

- 17-Perform with precision different techniques of drug administration.

B-5- Skills related to treatment strategies:

- 18-Design rational therapeutic strategies for both acute and chronic conditions that take into account the various variables that influence these strategies (P.ILO. 30). Choose the proper drug/s for the proper clinical situation in proper dosage.
19-Monitor the effectiveness and toxicity of therapy (P.ILO.33).
20- Write a prescription for selected important diseases.
21-Audit prescriptions citing multiple drugs.

C- General skills and Attitude:

C-1- Communication Skills:

C-1-1- Patient-Doctor Relationship:

- 22- Demonstrate respect to all patients irrespective of their socioeconomic levels, culture or religious beliefs and use language appropriate to the patient's culture (P.ILO. 34).
23- Provide appropriate basic drug education to the patient and his family (P.ILO. 50).

C-1-2- Collaboration with healthcare professionals:

- 24- Communicate effectively with other health care professionals to maximize patient benefits and minimize the risk of errors (P.ILO. 51).

C-2- Life-long learning:

- 25- Understand the importance of life-long self-learning and show a strong commitment to it (P.ILO. 56).
26- Use current I.T. for appropriate drug database to reach information about a specific medication (P.ILO. 59).

C-3- Ethical behavior:

- 27-Respect patient's beliefs, values and privacy (P.ILO 63 and 64).
28-Respect ethics related to drug prescription and use specially to drugs liable to produce abuse.
29-Recognize and effectively deal with unethical behavior of other members of healthcare team (P.ILO.71).

III- Course Contents:

III-A) Topics:

Topics	Teaching hours			Total %
	Lectures	Practical & Clinical	Total	
1- General pharmacology	11	6	17	
2- Autonomic Nervous System	16	10	26	
3- Ocular Pharmacology	2	4	6	
4- Skeletal muscle relaxants	2	4	6	
5- Autacoids	4	-	4	
6- Respiration	5	2	7	
7- Renal pharmacology	4	-	4	
8- Cardio-vascular pharmacology	16	12	28	
9- Blood and blood forming organs	6	-	6	
10- Psycho-neuro-pharmacology	16	-	16	
11- Hormones and their antagonists	11	4	15	
12- Gastro-Intestinal tract	6	2	8	
13- Chemotherapy + Local Antiseptics	16	-	16	
14- Drug abuse	2	-	2	
15- Drug interactions	2	-	2	
16- Chelating agents	3	-	3	
17- Vitamins and food supplements	2	-	2	
18- Immuno-pharmacology	2	-	2	
19- Pharmaco-economics	2	2	4	
20- Pharmacogenetics	2	-	2	
21- Prescription writing	-	4	4	
Total	130	50	180	100

4. General pharmacology: routes of drug administration, pharmacokinetics, Pharmacodynamics and use of drugs in special population and situations such as geriatrics. Basis of alternative and complementary medicine
5. Autonomic nervous system & drugs affecting the ganglia.
6. Ocular pharmacology : drugs affecting the eye and treatment of glaucoma.
7. Skeletal muscle relaxants :centrally and peripherally acting drugs.
8. utacoids : histamine , serotonin, endogenous peptides and eicosanoids, and their modulators.
9. Respiration: cough therapy and treatment of bronchial asthma.
10. Renal pharmacology : Diuretics, acidification and alkalinization of urine.
11. Cardiovascular system : Anti-hypertensive drugs and treatment of ischemic heart diseases, heart failure and dysrhythmias.
12. Blood and blood forming organs : Treatment of coagulation defects, anemia and Dysrlipidemia.
13. Psycho- neuro pharmacology : analgesics, sedatives, hypnotics and anxiolytics. Antipsychotics, antidepressants, anticovulsants and antiparkinsonism. General and local anaesthesia and .N.S. stimulants.
14. Hormones and their antagonists : insulin, oral hypoglycemic, adrenal steroids, thyroid gland, sex hormones, pituitary hormones and calcium homeostasis.
15. G.I.T. : acid disorders, emetic and ant emetic drugs and purgatives.

16. Chemotherapy : B- lactam antibiotics, Aminoglycosides, broad spectrum antibiotics, macrolide, quinolones , sulphonamides, antifungal, antiviral, therapy of tuberculosis, anti-amoebic, anti alarial, antibilharzial and cancer chemotherapy.
17. Drug abuse.
18. Drug interaction.
19. Chelating agents.
20. Vitamins and food supplements.
21. Immunopharmacology
22. Pharmaco- economics.
23. Pharmacogenetics.
24. Prescription writing.

III-B) Practical & Applied Pharmacology (14 classes):

- 1-Basis and ethics of prescription writing (1).
- 2- Dosage forms and routes of drug administration (3).
- 3- Effect of drugs on isolated heart (1).
- 4- Effect of drugs on isolated intestine (1).
- 5- Short clinical cases related to autonomic nervous system (2).
- 6- Applied skeletal muscle pharmacology (2).
- 7- Applied ocular pharmacology (2).
- 8- Effect of drugs on blood pressure (2).

III-C) Clinical Pharmacology (11 Classes) :

- 1- Ischemic heart diseases “Angina + Myocardial infractions” (2).
- 2- Hypertension (2).
- 3- Heart failure (2).
- 4- Bronchial asthma (1).
- 5- Peptic ulcer (1).
- 6- Diabetes mellitus (2).
- 7- Art of prescription writing (1).

IV- Teaching and learning methods:

IV-A) Methods used (Attached table 1):

- 1-Lectures.
- 2-Tutorial (small group teaching):
 - a- Practical modules
 - b- Clinical modules
- 3- Role play.

IV-B) Methods for disabled students: Not available

IV-C) Teaching plan:

- 1- Lectures: The lecture halls 11 and 12 in the big building of halls.
Five days / week. 1hour for each group (students are divided into two groups).
- 2- Practical classes: Students are divided into 10 groups, which are sub-divided into 30 small groups. Each attends 2 hours / week in the labs of the department.

- 3- Clinical Tutorial Classes: The small groups of students attend 2 hrs / week in the small halls of the department.

IV-D) Time Plan:

Item	Time Schedule	Hours	Total hours
1- Lectures	Daily One hour X 5days / Week	1 X 130	130
2- Practical classes	Once/ Week X 2 Hours (Either 11.30 am to 1.30 am or 1.30 pm to 3.30 pm)	2 X 14	28
3- Clinical Classes	Same as the practical classes	2 X 11	22
Total			180

V-Teaching and Learning Facilities:

1- Lecture halls:

At the building of halls. Writing boards, over head projector and data show(with prior arrangement) are available.

2- Laboratory classes:

Laboratories in the department where facilities for these types of experiments are available(organ bath, recording graphs, chemicals and animals).

3- Clinical classes:

Small rooms and two halls in the department with overhead projector and one data show.

4- Library:

At the third floor of the department.

5- Skill lab / models:

Models to teach methods of proper drug administration. (not available)

VI Student Assessment:

VI- A) Attendance:

Students need to attend at least 75% of the practical and clinical classes to sit for the final exam (Shown in the Log Book).

VI- B) Student Assessment Tool (Attached table 2):

1- Written exams:

- a- Short essay.
- b- M.C.Qs.
- c- Extended matching.
- d- Fill the blanks.

2- Practical modules:

- a- M.C.Qs.
- b- Fill the blanks.

3- Clinical modules:

- a- M.C.Qs.
- b- Fill the blanks.

4- Prescription writing.

5- Oral examination.

6- Log book.

VI- C) Examination Schedule:

- 1- Practical module examination (Before mid-year vacation).
- 2- Mid-year examination (After mid-year vacation).
- 3- Prescription writing
- 4- Final Examination.
- 5- Clinical module examination.
- 5- Oral examination. Tow sessions in one day.

VI- D) Examination Description:

Examination	Marks / Value
1- Presentation of Log book of practical and experimental classes.	Prerequisite for sitting for the exam.
2- Practical module exam.	35 marks
3- Mid-year exam.	40 marks
4- Prescription writing	15 marks
5- Final Exam.	110 marks
6- Clinical case modules	50
7- Oral examination in 2 sessions	50 marks (25 marks each)
Total	300 marks

VI- E) Grading System: According to faculty bylaws.

VII) Learning and References:

VII- A) Basic Materials:

- 1- National and International Books on Pharmacology .

VII- B) Suggested Materials:

- 1- Computer aided learning materials e.g. CDs.
- 2- Internet e.g. Online Pharmacological data base such as micromedix.com

Table (1): Teaching methods and aimed ILOS

Method	Aimed ILOS																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	
1- Lectures	x	x	x	x	x	x	x	x	x	x	x	x	x						x				x		x					
2- Practical modules													x	X		x	X			x	x			x		x		x		X
3- Clinical modules					x	x	x	x			x				x			x	x				x		X					
4- Role play														x						x	x	x	x	x			x	x	X	

Table (2): Assessment methods and aimed ILOS

[illegible]

**Cairo University
Faculty of Medicine
Department of Pathology**

Course specifications

**Course title: Pathology for 3d year students
2005/2006
Approved 2005**

Allocated marks: 300 marks

Course duration: 1 academic year September through APRIL

Total teaching hours: 252 hours

Lectures: 128 Practical:96 small groups/tutorial: 28

Course director: Prof. Dr. Naema Marie

Head of Pathology Department

Teaching staff: 25 professors, 12 assistant professors, 6 lecturers

I. AIM OF THE COURSE:

1. To familiarize students with the basic disease patterns and their underlying mechanisms within the specific organ systems as step to preparing the student for his clinical rounds and future as a practitioner
- 2.To promote life long competencies necessary for continuous professional development

II. INTENDED LEARNING OUTCOMES:

II-1: KNOWLEDGE and UNDERSTANDING:

By the end of the course, students should be able to:

- 1- **Define and discuss** the main disease categories that may affect the body (general pathology) as well as the basic mechanisms underlying these disorders (etiology , pathogenesis & natural history)
- 2- **Describe** the morphologic (gross & microscopic) changes occurring as a result of such disease processes in various organ systems
- 3- **Determine** the fate & complications of each particular disease and outline the general management procedures

II-2: CLINICAL & LABORATORY SKILLS:

By the end of the course, students should be able to be prepared for their upcoming clinical training by:

- 1- **Diagnosing and fully Describing** the pathologic picture of a disorder based on gross or microscopic morphology.
- 2- **Choosing the** most appropriate cost effective pathologic diagnostic procedures
- 3- **Selecting** the necessary techniques for sample reception & processing according to the nature of specimen received

II-3: INTELLECTUAL SKILLS

By the end of the course, students should be able to:

1. **Predict** the signs and symptoms of a disease based on the underlying gross & microscopic tissue changes responsible for symptomatology and physical changes in the patient, thereby enabling the student recognize patients with life/organ threatening conditions
2. **Interpreting** in a professional manner a pathology report

II-4 LIFE LONG LEARNING

By the end of the course, students should be able to:

1. Appreciate the importance of life long learning and show a strong commitment to it
2. Use the sources of biomedical information to remain current with the advances in knowledge & practice
3. Frame a question, search the literature, collect, analyze, critically appraise and utilize the obtained information to solve a particular clinical problem according to the principles of evidenced based medicine

II-5 ETHICAL BEHAVIOUR:

By the end of the course, students should be able to:

1. **Express** themselves freely and adequately by improving their descriptive capabilities and enhancing their communication skills
2. **Respond** appropriately according to the seriousness of the pathologic diagnosis in an acceptable humane manner, treating the patient as a whole rather than a lesion or specimen
3. **Maintain** a professional image in manner, dress, speech and interpersonal relationships that is consistent with the medical profession's accepted contemporary standards in the community

III. COURSE CONTENTS:

III-A: TOPICS:

Topic	% total hours	Number of hours		
		Total	Lectures	Practical/small groups
General Pathology		123 hrs	57 hrs	14 & 52 (66hrs)
1. PATHOLOGY & its related disciplines		1	1	
2. TECHNICAL POINTERS ON SAMPLE HANDLING, SENDING, PROCESSING & REPORTING & quality control of surgical biopsy material		12	2	1 4
3. INFLAMMATION & REPAIR		14	8	1&2
4. CELL INJURY, ACCUMULATIONS DEPOSITIONS & diseases of AGEING		14	8	1 &2
5. GROWTH DISTURBANCES & NEOPLASIA		27	9	1 & 8
6. FLUID & HEMODYNAMIC DISTURBANCES		18	8	1 & 4
7. IMMUNE RESPONSE & NON SPECIFIC & VIRAL INFECTION		5	5	
8. SPECIFIC INFECTIONS- GRANULOMA, & MYCOTIC DISEASES		20	6	1 & 6
9. GENETIC, ENVIRONMENTAL, NUTRITIONAL DISORDERS & IONIZING RADIATION EFFECTS		6	6	
10. CYTOLOGY		2	2	
11. IMMUNOHISTOCHEMISTRY		1	1	
12. HOW TO RESEARCH A TOPIC		3	1	1
Special Pathology		129	71	14 & 44 (58hrs)
1. CARDIOVASCULAR(heart & blood vessels		16	10	1 & 2
2. RESPIRATORY		14	8	1 & 2
3. GASTROINTESTINAL		14	8	1 & 2
4. HEPATOBILIARY & PANCREATIC		12	6	1 & 2
5. URINARY TRACT & KIDNEY		16	10	1 & 2
6. MALE GENITAL		7	3	2
7. FEMALE GENITAL & BREAST		15	9	1 & 2
8. ENDOCRINE		9	5	2
9. BLOOD & LYMPHORETICULAR		7	3	2
10. SKELETAL SYSTEM ,SOFT TISSUE, JOINTS & SKIN		12	6	1 & 2
11. PERIPHERAL & CENTRAL NERVOUS SYSTEMS		7	3	2
		252	128	28 + 96=124

III-B: PROBLEM BASED CASES:

Are based on the topics discussed in the above mentioned list

1. Acute & chronic Inflammation & repair
2. Degenerative changes
3. Necrosis & cell injury
4. Granulomas
5. Nonspecific infections & immunity disturbances
6. Circulatory disturbances
7. Neoplasms
8. Cardiovascular cases
9. Respiratory case
10. GIT case
11. Hepatobiliary case
12. Kidney
13. Female genital tract & breast
14. Skeletal system case

III-C: LIST OF SLIDES: (66 slides)

HISTOPATHOLOGICAL SLIDES FOR 3 rd YEAR MEDICAL STUDENTS

General

- 1-Fibrinous inflammation(peritonitis), liver
- 2-Acute suppurative appendicitis
- 7- Myocardial scar
- 10- Amyloidosis, Kidney
- 12- Hepatic steatosis
- 14- Chronic venous congestion, lung
- 15- Chronic venous congestion liver
- 17- Recent thrombus
- 18- Spleen infarction
- 20-Recent infarction, lung
- 82- Papillary transitional cell carcinoma,
- 22- Tuberculosis, lymph node.
- 23- Chronic fibrocaceous T.B. lung
- 24- Miliary T.B lung.
- 25- Rhinoscleroma
- 26- Mycetoma.

Systemic

- 62 Atherosclerosis, small artery
- 63- Allergic nasal polyp
- 67- Bronchogenic carcinoma
- 68- Pleomorphic adenoma salivary gland
- 73-Liver cirrhosis
- 75- Hepatocellular carcinoma..
- 77- Seminoma
- 78- Chronic diffuse glomerulonephritis
- 79- Renal cell carcinoma
- 80- Nephroblastoma
- 81- Benign prostatic hyperplasia
- 84- Secretory phase, endometrium
- 85- Simple endometrial hyperplasia
- 86- Vesicular mole(hydatidiform mole)

28- Schistosomiasis, large intestine

29- Schistosomal polyp intestine.

30- Schistosomiasis, urinary bladder

31- Schistosomal hepatic fibrosis

33- Schwannoma

34-Leiomyoma

35-Lipoma

37- Chondroma.

38- Capillary hemangioma

39- Cavernous hemangioma

40- Cavernous hemangioma

41- Squamous cell papilloma

42- Adenomatous polyp, large intestine

43- Pericanalicular fibroadenoma.

44- Intracanalicular fibroadenoma

45- Giant cell tumor (osteodroma)

46- Fibrosarcoma

48.- Osteosarcoma

50- Benign melanocytic nevus.

51- Nodular melanoma

52- Squamous cell carcinoma

53- Basal cell carcinoma

54- Invasive duct carcinoma (Scirrhous)breast

56- Adenocarcinoma, colon

57- Mucooid carcinoma, large intestine

58- Metastatic carcinoma, lymph node

89- Mammary cystic hyperplasia

90- Intraductal carcinoma, breast

91- Lymphocytic lymphoma.

92- Reactive follicular hyperplasia L.N

93- Hodgkin's lymphoma

94-Leukemic infiltrates liver.

96- Colloid goiter

97 Primary hyperplasia (Toxic goiter)

98- papillary ca, thyroid gland

99- Meningioma

NB: slides of new disorders may be added depending on availability of samples

III-D: LIST OF MUSEUM SPECIMENS: (168 jars)

- Cardiovascular system: 29 Jars
- Respiratory system : 18
- GIT: 24
- Hepatobiliary systems & pancreatic diseases : 17
- Urinary tract, male genital system and renal pathology :22
- Female genital system & breast disorders 20
- Endocrine pathology 3
- Blood diseases (peripheral blood and bone marrow disorders) & Lymphoreticular disorders (lymph nodes & splenic diseases) 6
- CNS & PNS 6
- Skeletal system & joint pathology 15
- Soft tissue 8

III-E: COURSE CONTENTS:

A) GENERAL PATHOLOGY

1. INTRODUCTION TO PATHOLOGY
 - Pathology & its related disciplines
2. TECHNICAL POINTERS ON SAMPLE HANDLING, SENDING, PROCESSING & REPORTING & quality control of surgical biopsy material
How to research a topic How to write a review article on a current topic, searching & collection of material, references & research ethics
3. INFLAMMATION & REPAIR
 - a. Acute inflammation
 - b. Chronic inflammation
 - c. Repair : Regeneration-Organization & healing in special conditions
4. CELL INJURY, ACCUMULATIONS & DEPOSITIONS
 - Cell response to injury: degenerative changes, necrosis & apoptosis
 - Accumulations & storage diseases
 - Depositions, abnormal calcifications & abnormal pigmentations
 - Diseases of ageing
5. IMMUNE RESPONSE & NON SPECIFIC INFECTIONS
 - Immunity & hypersensitivity
 - Immunodeficiency
 - Autoimmunity
 - Non specific bacterial infections: bactremia, pyemia, septicemia & toxemia
 - Viral infections
6. SPECIFIC INFECTIONS- GRANULOMA
 - Bacterial: TB- syphilis - leprosy
 - Fungal
 - Parasitic: Bilharziasis
7. FLUID & HEMODYNAMIC DISTURBANCES
 - Hyperemia – congestion- edema-thrombosis – embolism
 - Ischemia – infarction- gangrene- hemorrhage-shock
8. GROWTH DISTURBANCES & NEOPLASIA
 - Hyperplasia- metaplasia- dysplasia- hypertrophy-atrophy-hamartoma- tumor-like lesions

- Benign tumors
- Malignant tumors
- 9. GENETIC, ENVIRONMENTAL, NUTRITIONAL DISORDERS & IONIZING RADIATION DISORDERS
 - Basis of genetic disease- hereditary disorders & congenital malformations
 - Environmental disorders
 - Nutritional disorders: protein calorie malnutrition – vitamin disorders – trace element disturbances
 - Disorders of ionizing radiation
- 10. CYTOLOGY
 - ✓ Types of samples & proper handling, fixation of material & necessary clinical data
 - ✓ General features of reactive, benign & malignant cells
 - ✓ Pitfalls in diagnosis & how to interpret a cytology report
- 11. IMMUNOHISTOCHEMISTRY
- 12. HOW TO RESEARCH A TOPIC: How to write a review article, how to collect data , reference writing , using the available resources (library & internet), writing structure etc.....

B- SYSTEMIC/ SPECIAL PATHOLOGY

All diseases in each organ systems are studied covering :

- b) Definition, incidence of disease and its epidemiology**
- c) Etiology, pathogenesis & molecular genetics**
- d) Morphologic aspects: gross & microscopic changes**
- e) Fate & complications**
- f) Others(clinical presentation, prognosis, management etc...)**

Systems studied include the following :

- Cardiovascular system : Heart and blood vessels
- Respiratory system : upper and lower respiratory tract & lungs
- Gastrointestinal tract: stomach, small and large intestine
- hepatobiliary systems & pancreatic diseases
- Urinary tract and renal pathology
- Male genital system
- Female genital system & breast disorders
- Endocrine pathology
- Blood diseases (peripheral blood and bone marrow disorders) & Lymphoreticular disorders (lymph nodes & splenic diseases)
- Skeletal system, soft tissue, joint pathology & pathology of the skin
- Peripheral and central nervous system pathology

IV. TEACHING METHODS:

IV-A: METHODS USED:

- 1- General lectures
- 2- Tutorials, seminars, small group discussions, role playing and case studies
- 3- Practical sessions
 - a- Histopathology slide lab
 - b- Museum of pathology
 - c- Post Mortem & fresh surgical samples

IV-B: METHODS FOR DISABLED STUDENTS:

No special arrangements

IV-C: TEACHING PLAN:

LECTURES

Lecture halls numbers 11 & 12. Each hall provides seating for 700 students and the same lecture is given in each hall on the same day by 2 different professors(times 8-9 am /9-10 /10-11 am). Total number of hours 128 hrs per academic year (57 first term and 71 hrs second term). Lectures should be Illustrated, animated contain video clips or film strips or contain explanatory diagrams and algorithms

TUTORIALS / small group activities

28 hours of tutorials (14 hours first term and 14 hours second term). To be held after lectures in the PM autopsy theater adjacent to Pathology Dept& in museum. Small groups maximum 50 students will be included. This would include important **topic discussions in small groups, seminars, case studies & problem solving** Discussion of end of year project and role playing conducted in 2nd term.

PRACTICAL

A) Histopathology

Students are divided into groups of 150-200 and given a brief half hour data show on the topics of the week in the small lecture room of Pathology Dept. on the second floor. They then go down to the students lab for their training in microscopy

Every 3-4 students share a box of 66 slides and 1 microscope and spend 2 hours /session. There are 2 daily sessions 11-1 pm and 1 -3 pm. Total number of hours 48hours (26 hours 1st term 22hrs 2nd term). This would include photos,& diagrammatic representations of both normal & diseased tissues at the microscopical level and how that disease would be at the level of the whole organ

B) Museum

3 Staff members are responsible for demonstration of the jars. Students are divided into groups of 50/ staff .

Museum is located on the 4th floor of the main theatre building and students spend 2 hours /session. There are 2 daily sessions 11-1 pm and 1-3 pm. Total number of hours 48 hours (hours 26 1st term 22 hrs 2nd term) total number of jars 168

C) Postmortem & fresh surgical specimens

Will be displayed before tutorial session

Time plan:

Item:	Time schedule	Teaching hours	Total hours
Lectures	Daily : 8-9 am same lecture repeated at 10-11 am	1 hr/day 26 weeks	128
Histopathology laboratory	Weekly 11-1 pm same session repeated at 1-3 pm	2 hrs x 24weeks	48
Museum	Weekly 11-1 pm same session repeated at 1-3 pm	2 hrs x 24 weeks	48
Postmortem/tutorial	Weekly 11-1 pm same session repeated at 1-3 pm	2 hours x 14 weeks	28
TOTAL			252

V. TEACHING & LEARNING FACILITIES:

Facilities used for teaching this course include:

1. Projector slides covering all slides in slide box
2. Set of slides for each 4 students to be used throughout the year and handed in before finals
3. Data show
4. Overhead projector
5. Museum specimens
6. Fresh surgical specimens

VI. STUDENT ASSESSMENT:

VI-A: ATTENDANCE CRITERIA:

The minimum acceptable attendance is 75%, Students who fail to meet their attendance requirements are not allowed to sit for their final exams.

V-B: ASSESSMENT TOOLS:

TOOL	PURPOSE
Written exam:	Assessment of knowledge & understanding
Oral exam	Assessment of knowledge understanding & attitudes
Practical exam	Assessment of descriptive & diagnostic abilities and theory application
Log book	Assessment of attendance- discussion participation- quizzes/drills evaluation
4Quizzes & 4drills in practical class	Assessment of knowledge & understanding
2 Assignments & 1 end of year project in tutorial	Assessment of knowledge & understanding Assessment of life long learning skills & presentation skills

VI-C: TIME SCHEDULE:

TERM EXAMS: A 3 hour written exam is held in January and covers topics present in general path course another term exam is held in March duration 1.30 hrs

FINAL EXAM

- A)** Written 3 hour exam covers topics present in special pathology and selected topics in general pathology
B) Practical exam of 50 mins duration (4 jars, 1 fresh autopsy specimen and 4 slides & 1 report/technical)
C) Oral exam 10-15 mins

VI-D: GRADING SYSTEM:

Examination:	Marks allocated
Term exam I January	40
Term exam II March	20
Final exam May	
Written	100
Oral	40
Practical	100
4 Quizzes , 4 drills, end of year project 1	formative
TOTAL	300

- The minimum passing score is (60%) provided at least 30 marks are obtained in the final written exam
- Passing grades are: EXCELLENT $\geq 85\%$, VERY GOOD 75- <85%, GOOD 65- <75% and FAIR 60- <65%.

FORMATIVE ASSESSMENT ONLY:

Quizzes , drills, end of year project: student should pass a minimum of 4 quizzes / drills & the end of year project should be accepted as adequate by supervisor

VI-E: EXAMINATION DESCRIPTION:

Examination:		DESCRIPTION	Marks allocated
Term exam I (2hrs)		Written 2 hour exam covering topics in general pathology 1 essay- 6 short questions- 20 true or false & MCQ	40
Term exam II (1.30hrs)		Written 1.30 Hr exam topics special Pathology 6 short questions- 20 true or false & MCQ	20
Final exam -			240
	Written (3hrs)	Written 3 hour exam covering topics in general & special pathology 1 essay- 9 short questions- 20 true or false & MCQ + short case	100
	Oral 10-15min	covering topics in general & special pathology. 2 examiners	40
	Practical (50min)	4 unknown slides + MCQ on slide 4 jars + MCQ on Jar 1 fresh autopsy specimen+ MCQ on specimen 1 pathology report or technical question	100
TOTAL			300

VII. LEARNING AND REFERENCE MATERIALS:

VII-A BASIC MATERIALS

☒ Department books: available at faculty bookshops & in the department: principles of general & special pathology parts 1 & 2 - color atlases of Gross Pathology and Histopathology G. Nada et al .

- ☒ Box of **68 slides** to be used during the academic year and returned to department before practical exam

VII-B SUGGESTED MATERIAL

- ☒ Department tutorials & practical data shows, available in the department:
- ☒ Recommended Textbook : Basic Pathology by Kumar, Cotran & Robbins - or General & systemic pathology J.C.E Underwood 3d edition Livingstone- or Muir's Pathology. Available at faculty bookshops & main library
- ☒ Lecture CDs available in the department on request
- ☒ Important web sites
 - <http://www.pathmax.com/>
 - <http://www-medlib.med.utah.edu/WebPath/LABS/LABMENU.html#2>
 - <http://www.med.uiuc.edu/PathAtlasf/titlePage.html>
 - <http://www.medscape.com/pathologyhome>
 - <http://www.gwumc.edu/dept/path/2F.HTM>

4th year of M.B. & B.Ch. program

Allocated marks: 200 marks

Course duration: 6 weeks of teaching with a final end of year examination

Total teaching hours: 120 hrs lecture hrs:48 clinical hrs:60 surgical hrs:12

course director Prof. Dr. Taher Soliman

Head of ENT Department

Teaching staff: 39 professors, 22 Assistant professors and 17 lecturers

I. AIM OF THE COURSE

- To provide students with an appropriate background covering the common and important ENT emergencies and diseases as well as related head and neck disease in children and adults.
- To enable students to obtain a detailed history from patients and experience clinical ENT and head and neck examination and be familiar with recent methods of diagnosis and proper management and indications of specialist referral.

II. INTENDED LEARNING OUTCOMES:**II-1 Knowledge and Understanding:**

By the end of the course, students should be able to:

1. Describe the causes of the common ENT emergencies and disorders and the methods of transmission of common ENT infection.
2. Describe the clinical symptoms and signs of the most important ENT disorders.
3. Determine the appropriate diagnostic tools and therapeutic lines for the most important ENT disorders including applicable recent modalities.
4. Outline the management priorities for different ENT emergencies.
5. Recognize different rehabilitation methods for the common permanent handicapping problems in ENT.
6. Explain the relationship between some general symptoms or illness and ENT disease and the interaction between ENT and other specialties.

II-2: Clinical Skills:

By the end of the course, students should be able to:

7. Take proper history from patients with ENT and related head & neck problems.
8. Perform adequate clinical examination for ENT and head & neck patients and identify diversions from normal and use equipments available to a primary care practitioner.
9. Present patients data in an organized and informative manner.

10. Suspect complications of major diseases beyond the capacities of general practitioner and determine when to refer them to specialist.

II-3: Intellectual Skills:

By the end of the course, students should be able to:

11. Interpret the most important symptoms and signs of disease in ENT and head & neck patients.
12. Formulate appropriate management plans for individual patients presenting with the most common ENT and related head & neck disorders.

II-4 General Skills:

By the end of course, student should be able to:

13. Communicate properly with patients to have relevant data related to their problems.

II-5: Attitude:

By the end of the course, the students should be able to:

14. React kindly and respectfully to the patients during history taking and clinical examination.

III. COURSE CONTENTS:

III-1: Topics:

Topic	% Total hrs.	No. of hrs.		
		Total	Lectures	Practical/ Small groups
1 Ear	32.8	39 ½	16 ½	23
2- Nose	27	33	12	21
3- Pharynx	17.6	21 ½	7 ½	14
4-Oesophagus	2.9	3½	1 ½	-
5-Larynx	15.8	19	9	10
6- Neck	2.9	3 ½	1 ½	2
Total		120	48 hrs	72 hrs.
			40%	60 %

III-2: Clinical Cases:

External Ear:-	<ul style="list-style-type: none"> • Wax • F.B in the ear. • Acute diffuse otitis external. • Furunculosis. • Otomycosis.
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Middle ear:-	<ul style="list-style-type: none"> • Acute suppurative otitis media • Chronic non supportive otitis media. • Chronic suppurative otitis media and complications. • Otosclerosis
Nose :-	<ul style="list-style-type: none"> • Nasal obstruction. • Nasal polypi and antrochoanal polyp. • Atrophic rhinitis and rhinoscleroma. • Snoring and sleep apnea.
Pharynx:-	<ul style="list-style-type: none"> • Acute and chronic tonsillitis. • Dysphagia.
Larynx:-	<ul style="list-style-type: none"> • Hoarseness – stridor – tracheostomy.

IV. TEACHING METHODS:

IV-1: Methods Used:

1. Lectures.
2. Clinical rounds

“Small group teaching, practice of clinical skills, data show presentations” including pictures & video clips showing emergency cases not seen in wards or outpatient clinics

 - ENT wards 4 days / week.
 - Outpatients clinic 1 day/week.
 - Live & videotaped surgical demonstrations Once/week (12 hrs)

IV-2: Methods for Disabled Students:

No special arrangements are available

IV-3: Teaching Plan:

Lectures: Lectures halls in the outpatient ENT clinic from 11-12.30 am.

Clinical rounds: Each term, students are divided into five equal groups each group being assigned to one of the ENT units that constitute the department.
Live & videotaped surgical presentations.

Time Plan:

Item:	Time schedule	Teaching hours	Total hours
Theoretical lecture	Daily 11.00-12.30 am	1 ½ hrs x 32 lectures	48 hrs.
Clinical Training	5 days/week 9.00-11.00	(2x5) x 6 weeks	60 hrs.

Live and videotaped surgery	1/week 9.00-11.00	2 hrs x 6 weeks	12 hrs.
TOTAL			120 hrs.

V. TEACHING FACILITIES :

- Lecture halls:
 - One in the 3rd floor connected to the operation theatre with audio visual connections (Capacity 250 students).
 - Two in the outpatient clinic “air conditioned supplied with data show”.
With capacity of 80 students “the first one” & 60 students “the second one”.
- Small group classes: Five “three in dept. 13 & two in dept. 36” each has the capacity of 50 students.
- A computer is available in the outpatient clinic to be connected with the data show.
- Clinical facilities; “in the outpatient clinic:
 - 6 small examination rooms.
 - 2 big examination rooms prepared with 2 well equipped units available for 4 patients simultaneously.
 - Endoscopy unit with camera and monitor to allow the students to visualize endoscopic examination of ear, nose, pharynx & Larynx.
 - About 30 otoscopes that could be used by students to examine patient's ear.

VI. STUDENT ASSESSMENT:

The minimum acceptable attendance is 75%; students who fail to attend that percentage of activities will not be allowed to take the end of term examination. They may be allowed to take it during a subsequent term if they satisfy the required attendance, otherwise the marks allocated for the end of term examination would be recorded as a proportion from the final written examination score. Students need to attend at least 60% in order to sit for the final examination.

VI-2: Assessment Tools:

TOOL	PURPOSE
Written examination	Assessment of knowledge and understanding. (Outcomes # 1-6)
Oral examination	Assessment of Knowledge and understanding. (Outcomes # 1-6)
Clinical case	Assessment of clinical skills as well as intellectual skills & attitude (Outcomes 7-15)

VI-3: Time Schedule:

Term examination: held 5 times / year at the end of each rotation.

Final examination at the end of academic year for all students.

VI.4 Grading System:

Examination:	Marks allocated
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Term examination	Written exam	40
Final examination	Written	80
	Clinical	40
	Oral	40
TOTAL		200

- The minimum passing score is 120 marks provided at least 24 marks are obtained in the final written examination.
- Passing grades are: EXCELLENT > 85%, VERY GOOD 75-<85%, GOOD 65-<75% and FAIR 60-<65%.

VI-5 Examination Description:

Examination			Description	Marks
End of term (40 marks)	Written		A 1 hour written paper composed of short essay type questions.	40
Final	Written (80marks)		A 1 hour written paper composed of short essay type questions. One covering the ear. Second covering the nose. Third covering the pharynx & larynx	80
	Oral & Practical (80 Marks)	Clinical	One case.	40
		Oral	One oral examination stations.	40
				200

VII. LEARNING AND REFERENCE MATERIALS:

VII-1 Basic Materials:

- Standard department books: Available for students to purchase from different bookshops at the faculty.
- Overhead projections, slides and computer presentations including data show used during clinical and theoretical teaching.
- C.T. scans, MRI films and endoscopes.

VI. 2: Suggested Materials:

- CD-Room containing topics and presentations in ENT and related head & neck disorders.
- Videotapes for clinical training and operations.

Cairo University
Faculty of Medicine
Department of Ophthalmology

Course specifications
OPHTHALMOLOGY
Fourth year of M.B. & B. Ch. program

Allocated marks: 250 marks

Course duration: 6 weeks of teaching, with one term exam and a final end of year exam

Total teaching hours: 108 hours in general lectures and clinical course

Course director: Prof Dr. Osama el Hofy
Head of the Ophthalmic Department

Teaching staff: 37 professors, 27 assistant professors, 43 lecturers.

I-AIM OF THE COURSE:

- To enable students to be familiar with normal structure of the eye.
- To enable students to give basic health care and preventive measures to limit endemic diseases
- To enable students to recognize common causes of visual loss and their management
- To enable students to recognize emergency cases and guidelines for referral to the specialist.

2-1- INTENDED LEARNING OUTCOMES:

- 1- Describe appropriate management for common diseases affecting the eye
- 2- Outline the management of emergencies and priority of management
- 3- Describe the causes and pathogenesis of the most important ophthalmic diseases
- 4- Describe the clinical symptoms and signs of common ocular diseases.
- 5- Describe the clinical symptoms and signs of ocular manifestations associated with systemic diseases.
- 6- Describe the causes and pathogenesis of the most common ophthalmic problems.
- 7- Determine the appropriate diagnostic tools to aid in the diagnosis of common ophthalmic problems
- 8- Determine therapeutic lines for important and basic ophthalmic health care.

11-2: CLINICAL SKILLS

By the end of the course, students should be able to:

- 9- Perform a proper clinical assessment of the ophthalmic problems
- 10- Recognize different ophthalmic emergencies
- 11- Take a proper history for the patient

- 12- Perform adequate basic ophthalmic examination to identify deviations from normal.
- 13- Present patient data in an organized and informative manner

11-3: INTELLECTUAL SKILLS

By the end of the course, students should be able to

- 14- Interpret the most important symptoms and signs of diseases in ophthalmic patients
- 15- Interpret basic investigations related to important ocular diseases

COURSE CONTENTS:

111-1: TOPICS

1. PREVENTIVE OPHTHALMOLOGY

- a. Integrated management of ophthalmic diseases
- b. Prevention of infectious and endemic diseases of the eye

2. OPHTHALMIC EMERGENCIES

- a. Recognition of emergencies affecting the eye
- b. Recognition of trauma affecting the eye and the first-aid management
- C. Recognition of cases needing referral to specialized centers.

111-2: CLINICAL CASES

- 1 Diseases of the eyelids and lachrymal system
2. Diseases of the conjunctiva and cornea
3. Diseases of the iris and the lens
4. Diseases of the retina with special emphasis on those related to systemic diseases
5. Recognition of refractive errors of the eye and their basic management
6. Recognition of chemical and traumatic injuries and their first-aid management

IV-1: TEACHING METHODS

- I. Lectures
2. Clinical rounds
(Small group teaching, practice of clinical skills, video demonstration of basic operative procedures to aid students in understanding the concept of surgery)
3. Ophthalmic inpatient wards
4. Outpatient clinics

IV-2: METHODS FOR DISABLED STUDENTS

No special arrangements are available

IV-3: TEACHING PLAN

1. **Lectures:** The whole course is given to 5 groups throughout the academic year.
2. **Clinical rounds and tutorials:** Each term, students are divided into 6 groups attending outpatient clinics and inpatient rounds and students are allowed to attend operative procedures (elective).

Time plan:

- a) **Lectures:** 36 hours
- b) **Clinical rounds:** 2 hours/day, 6 days a week, for 6 weeks
- c) **Skills:** Basic clinical evaluation during clinical and outpatient attendance

Total teaching hours clinical and lectures: 108 hours

V-STUDENT ASSESSMENT:**V1: ATTENDANCE CRITERIA:**

The minimal acceptable attendance is 75%, students who fail to attend that percentage of activities are not allowed to take the end of term examination. They may be allowed to fulfill the required attendance and attend examination in a subsequent term. Students need to attend at least 60% in order to sit for the final exam.

V-2: ASSESSMENT TOOLS:

1. Written examination:
2. Oral examination
3. Clinical examination (spotting of 5 clinical cases)
4. Spotting of 5 projected clinical cases

V-3: TIME SCHEDULE:

1. Term exams, held 5 times per year
2. Final exam at the end of the academic year for all students.

V-4 GRADING SYSTEM:

1. **Term exam:** 50 marks
 2. **Final exam:**
 - a. **Written:** 150 marks
 - b. **Oral and clinical:** 50 marks
- Total score:** 250 marks

The minimal passing score is 30% in the written exam and 60% of the total including clinical and oral.

V-5: EXAMINATION DESCRIPTION:

1. End of term (50 marks)
 - a. Clinical
 - b. Illustrative
 - c. Oral
2. Final written Exam: (150 marks)
 - a. Time of exam: 3 hours
 - b. Type of written exam: short essays
3. Final oral and clinical exam (50 marks).

VI: LEARNING AND REFERENCE MATERIAL

1. Department book available at the ophthalmic department
2. List of recommended reference books
3. Overhead projection slides
4. CD rom given to students free of charge
5. Suggested reference books:
 - a. Kanski clinical ophthalmology
 - b. American academy series

Faculty of Medicine - Cairo University
Department of Forensic Medicine and Clinical Toxicology

Course specifications

Course Title: Forensic Medicine and Clinical Toxicology
Fourth year of MB & BCh program
2004-2005

Allocated Marks: 200

Course Duration: 6 weeks with final end year exam.

Total Teaching Hours: 144 Hours (80 hr lectures, 64 hr practical and small group work)

Course Director: Professor Dr. Ali Gamal El-Din

Teaching Staffs:

Professor Dr. Ali Gamal El-Din
Professor Dr. Nadia Kotb
Professor Dr. Saeid Abou El Nasr
Professor Dr. Dina Ali Shoukry
Professor Dr. Ashraf Mohamed Saleh
Ass. Professor Dr. Alaa Abdel Hameed McDad
Ass. Professor Dr. Abla Abdel Meguid Attia
Ass. Professor Dr. Manal Mohei Eldin
Ass. Professor Dr. Hala Saeid Zaghloul
Ass. Professor Dr. Safaa Gamal Eldin
Ass. Professor Dr. Hoda Abdel Hameed ElGhamry
Lecturer Dr. Randa Mohei Eldin EL Shinawy
Lecturer Dr. Heba Kotb
Lecturer Dr. Shereen Ghaleb
Lecturer Dr. Abla Abdel Rahman
Lecturer Dr. Abeer Ahmed Zayed
Lecturer Dr. Amny Salah
Lecturer Dr. Mohamed Adely
Ass. Lecturer Alaa Shehab
Ass. Lecturer Dina Soliman
Ass. Lecturer Eman Gaballa

AIM OF THE COURSE

The aim of the course is:

1. To provide basic background of different medico legal aspects of living and dead individuals
2. To provide basic knowledge of medical ethics and malpractice
3. To provide ability to diagnose and manage intoxicated patients.

INTENDED LEARNING OUTCOMES

knowledge and Understanding:

By the end of the course the student must be able to:

1. -Describe different medicolegal aspects of living and dead individuals regarding personal identification, diagnosis of death, causes and manner of death, postmortem changes and differentiation between types of wounds.
2. Explain medicolegal (ML) aspects of different cases of sexual offences.
3. Explain maternal morbidity and mortality from ML point of view
4. Explain various medicolegal aspects of malpractice
5. Describe basic background of medical ethics
6. List different classes of common toxic substances and environmental pollutants
7. Explain the circumstances of intoxication, toxic doses, toxic kinetics clinical picture, differential diagnosis of different drugs and toxic substances.
8. Explain initial appropriate first aid treatment and antidotal measures for different drugs and toxic substances.

Practical Skills:

9. Identify living and dead individuals
10. Diagnose death by different clinical and investigatory methods.
11. Determine time of death through assessment of post mortem changes
12. Identify different causes of death and manner of death as well.
13. Examine different wounds and injuries and write a proper primary wound report
14. Make preliminary tests for blood grouping and toxicological screen

Intellectual Skills:

15. Recognize common ethical dilemmas and suggest a proper solution.
16. Analyze case scenario of clinical forensic medicine and recognize their medico legal aspects.
17. Analyze different problems of malpractices
18. Analyze case scenario of intoxicated patient and formulate treatment plan.

COURSE CONTENTS
I. FORENSIC MEDICINE

TOPIC	No. OF HOURS		
	TOTAL	LECTURES	PRACTICAL
1. Identification (Of Living And Deceased)	9	4	5 (Museum & Morgue)
2. Death (Manner Of Death, Ml Aspects Of Brain Death , Death Under Anesthesia, Estimation Of Postmortem Interval)	11	6	5 (Museum & Morgue)
3. Ml Aspects Of Sudden Death	2	1	1 (Morgue)
4. ML Aspects Of Wounds (Fire Arm Injuries, Head Injuries, Thermal Injuries, Injuries Of Other Parts Of The Body, Transportation Injuries)	16	8	8 (Museum & Causality Department)
5. Paternity Investigations	5	2	3 (Lab.)
6. Ml Aspects Of Child Abuse And Domestic Violence (Ml Conflict)	7	3	4 (Museum & Morgue)
7. DNA Evidence	3	1	2 (Lab.)
8. Sexual Offences	4	2	2 (Museum)
9. ML Aspects Of Abortion	4	2	2 (Museum)
10. ML ASPECTS OF Pregnancy And DELIVERY	3	1	2 (Museum)
11-Violent Asphyxia	4	2	2 (Museum)
12-ML Aspects Of Suspected Death In Childhood	4	2	2 (Museum & Morgue)
13. Medical Ethics	6	3	3 (Case Studies)
14. Malpractice	6	3	3 (Case Studies)
TOTAL	84	40	43

TOXICOLOGY

TOPIC	NO. OF HOURS		
	TOTAL	LECTURES	PRACTICAL
1. CLASSIFICATION OF POISONS	4	4	
2. TOXICOKINETICS	2	2	
3. FOCUSED CLINICAL EXAMINATION OF A POISONED PATIENT	8	4	4 (Models & Case Studies).
4. MANAGEMENT OF AN INTOXICATED PATIENT	8	4	4 (Models & Case Studies).
5. HOUSEHOLD INTOXICATION (CORROSIVES, INSECTICIDES, BLEACHING SUBSTANCES)	6	4	2 (Lab. & Case Studies)
6. MEDICAL TOXICOLOGY (CNS DEPRESSANTS AND STIMULANTS- ANALGESICS- ANTIPYRETICS- OPIOIDS- ANTICHOLINERGIC AND CARDIOVASCULAR DRUGS)	12	8	4 (Lab. & Case Studies).
7. INHALANTS (CO, CO ₂ , CYANIDE)	6	4	2 (Lab. & Case Studies).
8. VOLATILE POISONS(ETHYL AND METHYL ALOCHOL AND KEROSENE)	6	4	2 (Lab. & Case Studies).
9. SUBSTANCES OF ABUSE	4	2	2 (Lab. & Case Studies).
10. Environmental Pollutants	4	4	
TOTAL	60	40	20

TEACHING AND LEARNING METHODS

METHODS USED:

1. Lectures
2. Small group discussions using role play , models, demonstration (slides and photographs- Museum specimens and Video films), case study
3. Clinical visit to faculty morgue
4. Clinical visit to Casualty department

DISABLED STUDENTS

1. Video films
2. Radio tapes
3. Web sites

Teaching Plan

Item	Time Schedule	Teaching Hours	Total Hours
Lectures			80
Theoretical	Lecture Halls of the Faculty	Daily (12-2 pm)	72
Group Discussions	Lecture Halls of the Department	2 Hours /4 Weeks	8
Practical		2-4 pm	64
Museum	Museum of the Department	4 Hours/ 5 Weeks	20
Morgue	Kasr El-Aini Morgue	2 Hours / 3 Weeks	6
Causality Department	Kasr El-Aini Causality Dep.	2 Hours / 3 Weeks	6
Lab	Department Lab.	4 Hours / 4 Weeks	16
Case Studies	Lecture Halls of the Department	4 Hours / 4 Weeks	16

TEACHING AND LEARNING FACILITIES

1. Department lab.
2. Faculty lectures halls
3. Department lectures halls
4. Museum hall
5. Faculty morgue
6. Casualty departments

STUDENT ASSESSMENT

TOOLS	PURPOSE
1. Written exams (essay- short questions- MCQ- True and false questions& Problem solving)	To evaluate 1-8&15-18 of ILOS
2 Log Book	To assess 9-13
3. Practical exams	To assess 9-14
4. Oral exams	To evaluate 1-8&15-18

Grading System:

Examination		Marks allocated
Term exam	written	30
	practical	20
Final exam	written	100
	practical	20
	oral	30
Total		200

Examination Description

Examination		Description	Marks
Term exam	written	Short essays,(3Q)	15
		MCQ,(10)	5
		True or False(5)	5
		Matching(2*5)	5
	practical	Spotting (5 specimens)	10
		Short wound report From casualty department	5
Preliminary test		5	
Final exam	oral	Forensic Medicine	15
		Toxicology	15
	written	Essays	
Long (2)		30	
Short,(10Q)		50	
Problem solving(2)		20	
	practical	Spotting (5 specimens)	5
Long wound report(Museum specimens)		10	
Preliminary test		5	
			200Marks

LEARNING AND REFERENCE MATERIALS

BASIC:

1. Department books
2. Museum Atlas
3. Practical Book

SUGGESTED MATERIALS:

Suggested text books

1. Forensic Medicine Encyclopedia
2. Forensic Pathology of Mayo
3. Principles of Clinical Toxicology
4. Emergency Toxicology

Faculty of Medicine - Cairo University
Community Medicine & Public Health Department

Course Specifications

Community Medicine & Public Health
Undergraduate Program
2004- 2005

Introduction:

The public health and community medicine course addresses four major domains necessary for preparing a physician in carrying out his/her responsibilities in a primary health care setting including acquiring basic public health sciences skills, analytical skills, policy and organizational skills, communication skills, and cultural skills. These include: Epidemiological and quantitative measurement; communication and health behaviors; principles of management; occupational and environmental health . Additionally students are introduced to important topics such as: nutrition, mental health, reproductive health, and health of the elderly and the needy. **Goals** of public health course have been stated to:

- Influence students to adopt a healthy lifestyle and sound behaviors to become role models for the individuals, families, and the communities they will serve in the future.
- Prepare a community –oriented physician capable of anticipating and responding to community health needs within the primary health care (PHC) setting according to the policies, regulations and guidelines of MOHP.
- Develop a graduate who will apply knowledge and skills learned, and is able to take leadership in motivating the community served.

The public health course is divided into three sections which are taught on three successive educational years: third, fourth and fifth years. Course specifications for each year are stated successively including:

- ❖ Course aims
- ❖ Course Intended Learning Outcomes (ILO's)
- ❖ Course contents
- ❖ Teaching and learning methods
- ❖ Teaching and learning facilities
- ❖ Student Assessment
- ❖ Learning reference material

Faculty of Medicine - Cairo University

Community Medicine & Public Health Department

Course Specifications

Course Title:

**Community Medicine & Public Health
4th Year of MBBcH Program
2004- 2005**

Allocated marks: 100 marks

Course duration: about 7 weeks

Total teaching hours: 45 hours:

Lectures: 40 hrs

Practical: 2 hrs

Field training: 3 hrs

Course Director: Professor Dr. Salwa Abdel Azeem
Professor and Chairperson of Community Medicine &
Public Health Department

Teaching Staff: 16 Professors, 9 Assistant Professors, 7 Lecturers,
12 Assistant Lecturers, 12 Demonstrators

I- Course Aims

- 1- Prepare a community- oriented physician capable of implementing preventive and control measures for common communicable diseases on the individual, family and community levels and within the primary health care (PHC) setting following MOHP policies and protocols.
- 2- Develop a graduate who is aware about the potential emerging/ threatening diseases and who can act as the first line of defense and management.

II- Course Intended Learning Outcomes (ILO's)

- 1- Knowledge and understanding
- 2- Professional & intellectual skills
- 3- General skills and attitude

1- Knowledge and Understanding

By the end of the program, the student should be able to:

1. Explain the basic terms and methods used in infectious disease epidemiology , , disease prevention and control trials, outbreak investigation, and evaluation of screening tests;
2. Define epidemiologic approaches of disease occurrence in communities: determinants, distribution and dynamics including prevention and control ;
3. Describe the MOHP programs for the prevention and control of the communicable and most prevailing diseases in Egypt e.g. Schistosomiasis, Tuberculosis and Poliomyelitis ;

2- Professional and Intellectual skills

By the end of the program, the student should be able to:

4. Anticipate and participate in investigation of an epidemic /outbreak as part of a health team and design an epidemiologic study to address a question of interest;
5. Apply epidemiologic skills in a public health setting, specifically in the formulation or application of public health programs or policies;
6. Identify trends in health and disease including epidemiological causes of high prevalence of certain infections , causes of eradication , emerging or reemerging previous infections worldwide and in Egypt: and
7. Identify the infectious cycle for selected diseases and apply appropriate health promotion, disease prevention and control measures to identified priority communicable diseases and under specific situations;

3- General skills and Attitude

By the end of the program, the student will be able to:

8. Explain how different health related behaviors can have an impact on health and disease; and
9. Participate actively as member of a multidisciplinary group in disease prevention, national health care programs and in conducting public health surveillance to address specific public health problems and issues;
10. Advocate for preventive public health programs and resources;

III- Course Contents

Topic	% total hours	Number of hours			
		total	lectures	*practical	Field training
1 General epidemiology of communicable diseases	16.5	.5 ^v	7.5	-	-
2 Epidemiology of selected communicable diseases	80	36	31	2	3
3 Hospital infection and sterilization	3.5	1.5	1.5	-	-
Total	100.0	45	40	2	3

* Practical includes pre visit orientation seminars

The detailed contents of the course topics:

❖ General epidemiology of communicable diseases:

- Patterns of occurrence of disease in communities (sporadic, endemic, outbreak, epidemic, pandemic)
- The infectious cycle (causative agent; reservoir: human and animal/zoonosis; mode of transmission; incubation period; period of communicability; susceptibility and resistance)
- Preventive measures: general and specific
- Control measures: the case, the immediate contacts, the community especially during epidemics, outbreaks and pandemics
- Surveillance systems, disease elimination and eradication
- Investigation of an epidemic/ outbreak
-
- Disinfection, sterilization, nosocomial/hospital infection

❖ Epidemiology of selected communicable diseases

- The selected diseases will include, common endemic diseases, emerging diseases, international diseases and potentially threatening diseases
- The infectious cycle for each of the selected diseases
- Prevention and control, and special programs as available
- Immunization: recommended and potential vaccines

❖ Hospital infection and sterilization

- Disinfection, sterilization, nosocomial/hospital infection

IV- Teaching and Learning Methods

1V-A: The contents are presented to the learners through:

Lectures; small group seminars; site visits and practical exercises;

IV-B: Teaching plan: the course is given on five yearly rounds each round is approximately 6- 7 weeks;

Lectures

Provided in one of the grand lecture halls (on the 2nd floor of MEDC building)

from 11.30 am - 1.00 pm. 4 times a week

Total teaching hours: 40 hours

Small group seminars: Pre field visit seminar

During each round , the students are divided into approximately 6 groups. Each group attends one pre visit orientation seminar that is conducted once weekly prior to the site visit. The seminar is provided in one of the lecture halls in the department from 9.00- to 11.00 am

Logistics of the Field visit

Students in each round are divided into approximately 6 groups. Each week, one group conducts a single site visit to the fever hospital that lasts around 3 hours.

V- Teaching and Learning Facilities

Facilities utilized in teaching the course include:

- Lecture hall in one of the grand lecture halls (outside the department) for the lectures and seminars;

- Five small classrooms within the department. Writing boards are available in all rooms; overhead aids and slide projectors and computer lab. , data show, videos are available when needed;
- Selected field training sites: Fever hospitals with free transportation belonging to Kasr El Aini ;

VI-Student Assessment

VI-A- Attendance criteria:

The minimum acceptable attendance is 75%. Students who fail to attend the required stated percentage will not be allowed to take the end of term exam. They may be allowed to take it during a subsequent term if they satisfy the required attendance, otherwise, the marks allocated for the end of term exam. would be recorded as a proportion from the final written examination score. Students need to attend at least 60.0% to sit for the final exam.

For the site visit students should show active participation & good behavior during the visit and related seminar and should complete the practical book .

VI-B Assessment methods:

Method	Purpose
Written Exam: End of term: short questions, matching, true& false and MCQ End of year: short and long questions	Assessment of knowledge and understanding
Oral Exam	Assessment of knowledge and understanding and skills
Practical	Completing the practical copybook and assessing the skills

VI-C Assessment Schedule

End of term exam: held at the end of each round. Students must fulfill the attendance criteria to stand the exam.

Final year exam: held at the end of the academic year for all students who should fulfill the attendance criteria to stand the exam.

VI- D Grading System

Examination	Marks allocated
Practical and site visit : attendance and completing practical book	5
End of term exam	20
End of year written exam	50
End of year oral exam	25
Total	100

The minimum passing score is 60 (60%) marks provided at least 15 (30%) marks are obtained in the final written examination.

Passing grades are: excellent $\geq 85.0\%$; $85.0\% >$ very good $\geq 75\%$,

$75\% >$ good $\geq 65\%$ and fair $65 >$ fair to 60%

Examination Description

Summative assessments are the only used assessment methods at the end of the round and at the end of the year (no formative assessment). They are matched with the ILOs and faculty by laws; The greatest weight of the assessment is for the understanding and the knowledge gained;

VII- Learning/ Reference Materials

VII-A-Basic department books: Theoretical and practical available for purchase from faculty bookshops;

- Overhead projections and slide presentations used during teaching;

VII-B Suggested materials:

Essentials of Public Health: L. J. Donaldson, R. J. Donaldson

Public Health & Preventive Medicine: Maxcy – Rosenau- Last
(available at the bookshops at the faculty)

Communicable Disease Epidemiology and Control: Roger Webber, London School of Hygiene and Tropical Medicine

Control of Communicable Diseases in Man: Abram S. Beneson,
American Public Health Association

VIII-Suggestions

- Using formative tools for assessment;
- Examining skills and knowledge by case studies;
- CD ROM containing the recommended references for each topic, and the used presentations;
- Providing suitable facilities to allow for the required practical component and skills to be adequately reached and assessed eg arranging site visits to selected sites to develop skills in infection control and hospital waste disposal ;
- Question Bank for the staff members;
- Free accessible Web site containing examples of the different kinds of the questions, to be available to the students;

Faculty of Medicine - Cairo University
Community Medicine & Public Health Department

Course Specifications

Course Title:

Community Medicine & Public Health
5th Year of MBBcH Program
2004- 2005

Allocated marks: 150 marks

Course duration: 6 weeks

Total teaching hours: 90 hours:

- ❖ **Lectures:** 45 hours
- ❖ **Seminars** 15 hours
- ❖ **Practical:** 15 hours (include small groups seminars, exercises,
and students' presentation),
- ❖ **Field visits:** 15 hours (5 visits)

Course Director: Professor Dr. Salwa Abdel Azeem
Professor and Chairperson of Community Medicine &
Public Health Department

Teaching Staff: 16 Professors, 9 Assistant Professors, 7 Lecturers,
12 Assistant Lecturers, 12 Demonstrators

I- Course Aims

1- Prepare a community- oriented physician capable of anticipating and responding to community health needs within the primary health care (PHC) setting according to the policies , regulations and guidelines of the Ministry of Health and Population (MOHP);

2-Apply basic public health sciences to the development and improvement of public health programs for the prevention of disease and the promotion of public health and well being;

3- Develop a graduate who will apply the knowledge and skills learned, and is able to take leadership in motivating the community served;

II- Course Intended Learning Outcomes (ILO's)

4- Knowledge and understanding

5- Professional & intellectual skills

6- General skills and attitude

1- Knowledge and Understanding

By the end of the program, the students should be able to:

1- Define, assess, and understand the health status of populations, determinants of

health and illness, factors contributing to health promotion and disease prevention of priority non communicable and communicable diseases within the different health settings and for specific age groups, and factors influencing the use of health services;

2- Define different MOHP policies, systems, programs, approved standards of practice and describe the specific health programs including MCH, family planning, school health, occupational health and others;

3- Describe the role of PHC physician in addressing local health problems, the prevention and control of vulnerable groups' health problems including the non-communicable diseases;

4- Define the screening tests pertinent to selected morbidity conditions and the at-risk approach in the application of screening tests;

5- Describe the different health education /communication strategies for use with clients, health care team, and the community;

6- Describe the quality cycles and its utilization in different public health settings;

7- Define basics of demography and vital statistics related to fertility, morbidity and mortality;

2- Professional and Intellectual skills

(2-1) Data acquisition:

By the end of the program, the students should be able to:

8 - Conduct, document and analyze a comprehensive situation analysis recognizing non biological factors such as: the cultural, socioeconomic, religious, environmental, legal and working factors that may influence disease causation/ management, client's perception of

health/ disease, access to care and adequately respond to these factors in the benefit of the client , patient& community ;

(2-2) Data analysis and problem solving:

By the end of the program, the students should be able to:

- 9- Determine appropriate use of data and statistical methods for problem identification, prioritization and resolution, and for program planning, implementation, and evaluation;
- 10- Evaluate the integrity and comparability of data and identify gaps in data sources;
- 11- Explain the ecological factors of morbidity and mortality within the concept of epidemiologic and demographic transitions;
- 12- Participate in health promotion, disease prevention and national health care programs applying MOHP standards and protocols for different settings , different age groups particularly of the vulnerable groups;
- 13- Identify management functions: planning, implementation and evaluation of health care services, and utilize them in dealing appropriately with a specific community health problem;
- 14-Identify the dimensions of quality in health care, and how to utilize appropriately quality concepts and processes for performance improvement;
- 15- Apply appropriate health education and communication strategies in different settings using behavioral change models;

3- General skills and Attitude

By the end of the program, the students should be able to:

- 16- Appreciate the role of cultural, social, and behavioral factors in determining disease, disease prevention, health promoting behavior, and medical service organization and delivery;
- 17 -Interact and communicate sensitively, effectively, and professionally with persons from diverse cultural, socioeconomic, educational, and professional backgrounds, and with persons of all ages and lifestyle preferences;
- 18- Communicate effectively with colleagues from other disciplines;
- 19-Demonstrate the ability to evaluate inputs, process and outputs by the use of appropriate indicators;
- 20- Demonstrate respect to all patients irrespective of their socioeconomic levels, culture or religious beliefs and use language and other communication skills appropriate to the patient culture;
- 21-Advocate for public health programs and resources;

III- Course Contents

Topic		Number of hours				
		total	Lect.	Semin	*practical	**Site visits
1	Measurements of health : demography, vital statistics, and disease burden	4	3	1		
2	Epidemiology of selected non communicable diseases	16.5	7.5	3	3	3
3	Communication and health behavior	4	3	1		
4	Mental health	1		1		
5	Nutrition in health and disease	9.5	7.5	2		
6	Health care management and administration	3.5	1.5	2		
7	Health systems and health services in Egypt	1		1		
8	Primary health care, basic health services	13.5	1.5		6	6
9	Rural health and school health	10.5	4.5		3	3
10	Reproductive health, including maternal and child health and family planning	17.5	7.5	4	3	3
12	Health of the elderly	1.5	1.5			
14	Occupational health	7.5	7.5			
Total		90	45	15	15	15

*Practical includes : exercises, student presentation and group discussions.

**Each visit lasts approximately 3 hours ie 3 hrs per visit

The detailed contents of the course topics:

1. Measurements of health : demography, vital statistics, and disease burden:

Definitions, census, population estimates and projections, Egypt's population trend, theory of demographic transition, population pyramids, sources of data, vital indices and concepts of quality of life

2. Epidemiology of selected non communicable diseases

General concepts, risk factors, primary and secondary prevention, periodic examination, screening tests, epidemiology of injuries and selected non-communicable diseases (ischemic heart disease, hypertension, rheumatic heart disease, diabetes, cancer, blood disorders, bronchial asthma)

3. Communication and health behavior:

Basic behavioral theories, behavioral and social variables, communication, health education, counseling , and community mobilization.

4. Mental health:

Definition , Risk factors , impact of mental illness, primary and secondary prevention , mental health program

5. Nutrition in health and disease:

Definitions and concepts, nutrients (sources, functions, requirements), adequate diet, nutritional public health problems, assessment of the nutritional status, diet and chronic diseases,

6. Health care management and administration:

Definition and principles of management, assessment of community needs and resources, problem identification and priority setting, organization-based management , leadership and team building, quality management, health economic

7. Health systems and health services in Egypt:

Egypt's health policy, different health systems functioning in Egypt, the organizational structure and function of the MOHP the referral system, the concept of health reform

8. Primary health care, basic health services, and family practice:

Curative/preventive patterns of care, levels of practice (individual, family and community levels), comprehensive health care, PHC (definition and principles, characteristics, elements), PHC services in Egypt, the family practice approach in Egypt

9. Rural Health:

Health-related problems in rural areas , the rural health program, organization of rural health services ,staffing of the rural health team

10. Reproductive health, including maternal and child health and family planning:

Definitions and concepts, components of comprehensive RH, RH activities and MCH services implemented in Egypt, evaluation of MCH program, FP (the population policy and strategy for Egypt, the national FP program, and its evaluation)

11. Health of the elderly:

Definitions, the physical, mental, and social problems and needs of the elderly, health care programs for the elderly and their relation to other care programs

12. Occupational health:

Concepts and definitions, hazards/work-related hazards for different occupations and jobs, prevention and control of occupational hazards, ergonomics, occupational health program, the role of the PHC in occupational health

IV -Teaching and learning methods

1V-A: Methods used: The contents will be presented to the learners through:

Lectures, seminars, small group seminars, practical field visits and exercises.

IV-B: Teaching plan:

Lectures

Provided in one of the grand lecture halls (on the 2nd floor of MEDC building)

From 8- 9:30 am 5 days per week

Weekly teaching hours: 7.5 hours

Total teaching hours: 45 hours

Seminars

Provided in one of the grand lecture halls (on the 2nd floor of MEDC building)

From 10- 11p.m. twice per week (Saturday and Wednesday)

Weekly teaching hours: 2 hours.

Total teaching hours: 15 hours

Small group practical seminars: Pre orientation and post assessment field visits seminars

Provided in smaller groups in the department's classrooms;

From 10:30 am - to 12 pm. (except on Sat. and Wed., from 11am -12:30pm)

Weekly teaching hours: 3

Total teaching hours: 15

Logistics of the practical part

Students of each round are divided into 10 subgroups. Each two consecutive subgroups are put under the supervision of an equivalent number of the staff members. So, we have finally 5 groups of the students, accounting to 5 groups of staff members. Five practical field visits are conducted each lasts approximately 3 hours. Each is preceded by and followed by pre orientation and post assessment seminars respectively.

These visits are conducted once per week in the following sites:

- The outpatient clinics of chronic non-communicable disease in Kasr- El Aini
- The CSPM in Abo El Rish Pediatric hospital
- A village, and its rural health centre
- Two urban PHC facilities: General urban center and MCH center

V- Teaching and Learning Facilities

- **Lecture halls** in one of the grand lectures halls (outside the department) for the lectures and seminars;

- **Small 5 classrooms' halls** available within the department;
- Writing boards are available in all room; overhead aids and slide projectors and computer lab. , data show, videos are available when needed;
- **Field training sites:** CSPM; Kasr EL Aini outpatient clinics; 2 General Urban Centers, 2 MCH centers, 2 rural villages including each rural health center. Free transportation is available to faraway rural sites;

VI- Student Assessment

VI-A -Attendance criteria:

The minimum acceptable attendance is 75.0%. Students who fail to attend that % will not be allowed to take the end of term exam. They may be allowed to take it during a subsequent term if they satisfy the required attendance, otherwise, the marks allocated for the end of term exam. would be recorded as a proportion from the final written examination score. Students need to attend at least 60.0% to sit for the final exam.

Required regulations: Students should demonstrate:

- 1- Participation & good behavior in the field visits, and related seminars
- 2- Assignments: for each field visits, the student should respond to the inquires and solve the practical problems present in the practical book to be assessed during the oral exam at the end of the round

VI-B- Assessment Tools and Schedule

Method & Schedule	Purpose
Written Exam: End of term: short questions, matching, true& false and MCQ End of year: short and long questions	Assessment of knowledge and understanding
Oral Exam: end of year	Assessment of knowledge and understanding and skills
Practical oral exam: end of term	Assessment of skills developed during site visits

Summative assessments are used at the end of the round and at the end of the year (no formative assessment). They are matched with the ILOs and faculty by laws;

The greatest deal (weight) of the assessment is for the understanding and knowledge gained ;

VI-C- Grading System:**Total marks 150**

Examination	Marks allocated
Practical and site visit attendance, completing practical book and oral exam	15
End of term exam written exam	30
End of year written exam	75
End of year oral exam	30
Total	150

The minimum passing score is 90 marks (60%) provided at least 22.5 marks (30%) are obtained in the final written examination;

Passing grades are: excellent $\geq 85.0\%$; $85.0\% >$ very good $\geq 75\%$,

$75\% >$ good $\geq 65\%$ and fair $65 >$ fair to 60% ;

VII-Learning/ reference materials

VII-A-Basic department books: Theoretical and practical books available for purchase from faculty bookshops;

- Overheads and slide presentations used during teaching;

VII-B Suggested Materials:

Essentials of Public Health: L. J. Donaldson, R. J. Donaldson

Public Health & Preventive Medicine: Maxcy – Rosenau- Last
(available at the bookshops at the faculty)

VIII- Suggestions:

-Using formative tools for assessment

- CD ROM containing the recommended references for each topic, and the used presentations.

- Providing more facilities for adequate skills training e.g.: Demonstration lab. to present the practical exercises and role play. Also, Skill lab. to prepare health education materials and develop students' computer skills

-Question bank for the staff members

- Free accessible Web site containing examples of the different kinds of the

questions, to be available to the students

- Model PHC center to be affiliated to Kasr El Aini outpatient clinic
- Supporting site visits by training site staff and linking them to the department.

Cairo University
Faculty of Medicine
Department of Obstetrics and Gynecology
2005-2006

Course specifications

Course Title: **Obstetrics and Gynecology**
Fourth and Fifth year of MBChB program

- Allocated marks:** 500 marks
- Course duration:** 6 weeks of teaching for 4th year MBChB program
4th year Term examination
6 weeks of teaching for 4th year MBChB program
5th year Term examination
Final whole course examination at the end of 5th year.
- Total teaching hours:** 4th year: 96 total hrs
lectures 36 hrs
small group lectures: 30 hrs
clinical/small group sessions: 30 hrs
5th year: 96 total hrs
lectures 36 hrs
small group lectures: 30 hrs
clinical/small group sessions: 30 hrs
- Course director:** Prof.Dr Mohamed El Miligui
Head of OBGYN department
- Teaching Staff:** 66 professors, 34 assistant professors, 55 lecturers, 38 assistant lecturers

I. AIM OF THE COURSE:

The aim of this course is to:

- Provide students with basic knowledge of normal and abnormal growth and development of the female genital tract and normal and abnormal pregnancies and labor.
- Enable students to provide basic health care for females in different age group (prepubertal, pubertal, childbearing, perimenopausal, and menopausal)
- Provide students with an appropriate background covering the common and important obstetrics and gynecological emergencies and diseases (causes, diagnosis and management)
- Provide appropriate ethical and professional education necessary for establishment of excellent communication with patients and colleagues and using sound ethical principles in clinical decision making
- Provide life long learning competencies necessary for continuous professional development and research studies.

II. INTENDED LEARNING OUTCOMES:

II-A KNOWLEDGE and UNDERSTANDING:

By the end of the course, all students should be able to:

1. Describe the basic physiological background of fertilization, implantation and early development of the fetus, placenta, and cord.
2. Describe the anatomical features and development of the female genital tract and their clinical application.
3. Recognize the basic physiological changes produced by pregnancy occurring in each trimester and the basic principles of antenatal care.
4. Explain the physiology of menstruation, puberty (its abnormalities and their management), menopause (abnormalities and their management)
5. Discuss different medical disorders occurring during pregnancies and their management (eg: hypertension, pyelitis, hyperemesis, diabetes, anemia...)
6. Discuss etiology of bleeding in early pregnancy (i.e. Abortion, ectopic, vesicular mole) and their management, and causes of bleeding in late pregnancies (placenta praevia, accidental hemorrhage) and their management.
7. Recognize high-risk pregnancies, their magnitude, and different etiologies with emphasis on preventable and avoidable causes and their management.
8. Illustrate different methods of assessment of fetal well-being
9. Illustrate the basic anatomy and surgical anatomy of the female pelvis and fetal skull

10. Explain the physiology, mechanism, management of normal labor and different abnormal presentations and positions
11. List the causes of complications of third stage of labor and outline their management
12. Describe the physiological changes during puerperium and the recommended program of postnatal visits with abnormalities occurring in puerperium and their management
13. Outline the indices, causes and prevention of maternal and perinatal morbidity and mortality
14. Recite the types, causes and treatment of dysmenorrhea and premenstrual syndrome (PMS)
15. Discuss types, causes, proper investigation and management of life threatening severe bleeding conditions
16. Explain the normal human sexual response and common sexual problems and their management
17. Discuss the magnitude of the infertility problem and its different etiologies, basic diagnostic tools, and treatment of infertility
18. Describe causes, types, and methods of diagnosis and management of STDs (sexually transmitted diseases) with emphasis on methods of prevention and serious complication of STDs.
19. Outline the pathology of cervical, uterine, ovarian, vaginal and vulval cancers, with emphasis on screening methods and early recognition and broad lines of management of these condition
20. Recite different contraceptive methods: their uses, types, advantages, disadvantages, and complications

II-B: CLINICAL and INTELLECTUAL SKILLS

By the end of the course all students should be able to:

21. Assess the gestational age of a pregnant lady through history taking, focused clinical examination, beta-HCG level, and ultrasound assessment
22. Clinically differentiate between normal pregnancies and high risk pregnancies.
23. Distinguish between different causes of bleeding in early pregnancies with judgment of life threatening conditions e.g.: hypovolemic shock of inevitable abortion, disturbed ectopic pregnancy, through vital signs, general, abdominal and pelvic examinations.
24. Point out the warning signs of late pregnancy and early referral to specialized centers
25. Evaluate the risk of bleeding in late pregnancy and how to start management with emphasis on NOT doing vaginal examination

26. Appraise different methods of assessment of fetal well being with proper use of Pinard, Sonicaid, US to evaluate fetal well being, and distressed fetuses which need immediate intervention
27. Manage normal labor appropriately and identify cases requiring referral (EBM).
28. Examine the female during labor and early recognition of obstructed labor through clinical symptoms and signs and call for help or refer to a special center
29. Assess complication of the third stage of labor and apply first aid management of each till a senior obstetrician is involved
30. Differentiate normal from abnormal neonate through Apgar score and participate in the initial management of those in need of resuscitation.
31. Counsel problems occurring in menopause with emphasis on postmenopausal bleeding, (any case of postmenopausal bleeding should be considered malignant until proved otherwise)
32. Counsel regarding methods of contraception suitable for each patient and how to use or apply it

II-C: ETHICAL and SOCIAL SKILLS:

By the end of the course all students should be able to:

33. Communicate with the patient as a person, not as a disease, and understand that the patient is a person with beliefs, values, goals, and concerns, which must be respected in addition to respecting the patient's dignity, privacy, information confidentiality and autonomy.
34. Counsel the patient before doing any intervention and in different situations with respect to her wish whenever this is possible
35. Maintain the atmosphere of cooperation, peer relationships, and mutual respect in the university society
36. Advance the knowledge base of medicine by developing and encouraging scientific researches

III. COURSE CONTENTS:

III-A: TOPICS:

TOPIC	% Total hrs	No of hrs			
		Total	Lectures	Small groups	
				Practica 1	lectures
OBSTERICS					
Basic obstetrics and normal Pregnancy		9	3	2	4
1. Fertilization, implantation and early development.*			1		
2. The placenta and the fetal membranes. *			1		
3. Maternal changes during pregnancy. *			1		
4. Diagnosis of pregnancy*			1		
5. Antenatal care and risk assessment. *			2		
6. Prenatal diagnosis of congenital anomalies.			1		
Abnormal Pregnancy		8	3	3	2
Bleeding in early pregnancy *			2		
7. Abortion.					
8. Ectopic pregnancy			2		
9. Hydatidiform mole			1		
Antepartum hemorrhage*		5	2	2	1
10. Placenta previa			1.5		
11. Placental abruption			1.5		
Maternal problems complicating pregnancy		14	6	3	5
12. Vomiting in pregnancy*			1		
13. Hypertensive disorders in pregnancy*			2		

14. Diabetes Mellitus with pregnancy.			2		
15. Cardiac diseases with pregnancy			1		
16. Rh isoimmunization			2		
17. Anaemia with pregnancy			1		
18. Urinary tract infections*			1		
19. Venous thrombo-embolism			1		
Normal labor and delivery*		7	3	2	2
20. Anatomy of the female pelvis and fetal skull			1		
21. Introduction to labor			1		
22. Normal labor			2		
23. Analgesia and anesthesia for normal labor			1		
Abnormal labor and delivery		15	7	3	5
24. Occipito-posterior positions			1		
25. Face and brow presentations			1		
26. Breech presentation			2		
27. shoulder, cord and complex presentations			1		
28. Multifetal pregnancy.			1		
29. Abnormal uterine action			2		
30. Abnormal labor Patterns			1		
31. Contracted pelvis and cephalopelvic disproportion			2		
32. Obstructed labor			1		
Obstetric injuries		4	1	1	2
33. Rupture uterus			1		
34. Lacerations of the cervix, vagina and perineum			2		

Complications of third stage of labor		8	3	2	3
35. Postpartum hemorrhage			1		
36. Retained placenta			1		
37. Acute inversion of the uterus			1		
38. shock in obstetrics			1		
39. hypofibrinogenemia			1		
Fetal and neonatal problems in obstetrics		11	5	2	4
40. Assessment of fetal well-being			1		
41. Intrauterine growth restriction			1		
42. Preterm labor and prematurity			2		
43. Postterm pregnancy			1		
44. Premature rupture of the membranes			1		
45. Amniotic fluid and its disorders			1		
46. Fetal and neonatal asphyxia			1		
47. Fetal birth injuries			1		
The puerperium		4	1	1	2
48. Puerperium			1		
49. Puerperal pyrexia and sepsis			2		
Operative obstetrics		7	3	2	2
50. Induction of labor and abortion			1		
51. operative vaginal delivery			2		
52. Episiotomy			1		
53. Caesarean section			1		
Ultrasound in obstetrics		3	1 2	1	1
Selected articles		3	1 1	1	1
Maternal and perinatal		2	1	1	0

mortality			1		
Total hours		100			
GYNECOLOGY					
Basic Gynecology		11	6	3	2
24. The clinical approach to gynecology			1		
25. Anatomy of the female genital tract*			2		
26. Embryology of the female genital tract*			1		
27. Common Chromosomal abnormalities			1		
28. Physiology of menstruation*			2		
29. Dysmenorrhea and PMS*			1		
Gynecologic Endocrinology and Infertility		13	4	5	4
30. Puberty*					
31. Menopause*			1		
32. Amenorrhea*			1		
33. Ovulation disorders			2		
34. Hirsutism			1		
35. Infertility			1		
			2		
General Gynecology – Injuries		13	5	4	4
36. Abnormal bleeding from the genital tract			2		
37. Genital prolapse*			2		
38. Retroversion of the uterus			1		
39. Perineal injuries and lacerations			1		
40. Urinary incontinence in females			1		
41. Genito-urinary fistulas			1		
42. Rectovaginal fistula			1		
Infections In Gynecology		12	3	5	4

43. Infections of the female genital tract. *			1		
44. Acute and chronic pelvic inflammatory disease*			2		
45. Chronic specific pelvic infections*			1		
46. Vaginal discharge			1		
47. Sexually transmitted diseases.			2		
48. Diseases and swellings of the vulva		6	2	3	1
- Classification and clinical presentation			3		
- Non neoplastic epithelial disorders.					
- Vulvar swellings (non neoplastic – neoplastic)					
- Cancer of the vulva (VIN – invasive cancer)					
Tumors of the uterus including endometriosis		11	4	4	3
49. Uterine fibroid*			2		
50. Endometriosis and adenomyosis*			1		
51. Carcinoma of the cervix and CIN			2		
52. Endometrial carcinoma			1		
53. Choriocarcinoma.			1		
54. Benign and malignant swellings of the ovary		6	2	3	1
- non neoplastic cysts of the ovary			3		
- Benign neoplastic cysts of the ovary					
- Benign solid ovarian tumors					
- Malignant ovarian tumors					
- Par-ovarian cysts					

55. Contraception and family planning		5	2	2	1
- General considerations			3		
- Non hormonal contraception					
- Hormonal contraception					
- Surgical sterilization techniques					
56. Human sexuality and female sexual dysfunction		2	1	0	1
Clinical and operative Gynecology		9	4	2	3
57. Molecular biology in gynecology			1		
58. Endoscopy in gynecology			1		
59. Imaging in gynecology			1		
60. Differential diagnosis in gynecology			2		
61. Operative Gynecology			2		
		88			

* 4th year topics.

III-B CLINICAL CASES and DIAGNOSTIC TOOLS:

1. Normal Pregnancy:

- History taking from pregnant ladies in 1st, 2nd, and 3rd trimesters
- Abdominal examination of a female in the 3rd trimester
- Pinard and Sonicaid use to detect FHS in 3rd trimester

2. Abnormal Pregnancy:

- History taking from pregnant females complaining of vomiting, hypertension, DM, cardiac disease, urinary tract infection, bleeding, threatened preterm labor or history of recurrent abortion.
- Vital signs taking (sphygmomanometer, stethoscope..._
- Laboratory results interpretation
- Ultrasound interpretation

3. Normal Labor:

- Observe normal labor in section 10,
- Assist in delivery of the baby and the placenta

4. Abnormal Labor:

- Observe management of breech, shoulder presentation, cord prolapse and multiple pregnancies in section 10

5. Normal and Abnormal Puerperium:

- History taking of ladies in puerperium
- Examination of different types of Lochias to differentiate normal and abnormal puerperium

6. Ultrasound in Obstetrics:

- Observation and interpretation of different ultrasounds done in the outpatient clinic

7. Anatomy and Development of the Female Genital Tract:

- Female bony pelvis and fetal skull inspection and identification of different diameters

8. Reproductive Endocrinology and Infertility:

- Interpretation of different HSG(Hysterosalpingographies) to determine uterine, cervical, and tubal lesions that may cause infertility
- History taking and examination of cases of amenorrhea

9. Displacements, Traumatic Lesions, and Urogynecology:

- History taking and examination of different cases of genital prolapse and cases with SUI (Stress Urinary incontinence)
- History taking and examination of genital fistula.

10. Contraception and Family Planning:

- Examination of different types of contraceptive devices, and observation of the methods of their application in the outpatient clinic.

11. Pelvi-abdominal mass cases :

- History taking and examination of different cases.

12. Abnormal genital tract bleeding cases:

- History taking and examination of different cases.

NB: different jars and instruments are available in the Maternity Hospital to help eliciting different obstetrics and Gynecological conditions in addition to the use of different instruments in Obstetrics and Gynecology.

List of available specimen jars

Obstetrics:

- 1- Abortion.
- 2- Ectopic pregnancy.
- 3- Hydatidiform mole.
- 4- Antepartum hemorrhage
 - Placenta previa.
 - Accidental hemorrhage.
- 5- Maternal and fetal birth injuries.
 - Rupture uterus
 - Cervical injuries
 - Fetal head birth injury.
- 6- Anatomy and anatomical disorders of the placenta.
- 7- Anatomy and anatomical disorders of the umbilical cord.
- 8- Puerperal sepsis.

Gynecology

- 1- Fibroids.
- 2- Adenomyosis of the uterus.
- 3- Endometriosis.
- 4- Carcinoma of the cervix.
- 5- Endometrial carcinoma.
- 6- Choriocarcinoma.
- 7- Cysts of the ovary.
- 8- Paraovarian cyst
- 9- Complications of ovarian cysts.
- 10- Benign ovarian neoplasms.
- 11- Malignant ovarian neoplasms.
- 12- Pelvic inflammatory disease.
- 13- Bilharsiasis of the female genital tract.
14. Fothergill's operation.

List of available instruments

Gynecology

- 1- Uterine curettes (types).
- 2- Uterine sound.
- 3- Cervical dilators (types).
- 4- Cervical biopsy punch forceps

- 5- Ayre's spatula.
- 6- Novak's endometrial biopsy curette.
- 7- Sharman's endometrial biopsy curette.
- 8- Cannula for HSG (types).
- 9- Volsellum forceps (types)
- 10- Vaginal specula (types).
- 11- Vaginal retractors (types).
- 12- Trocar and cannula for laparoscopy.
- 13- Uterine holding forceps.
- 14- Hysterectomy clamps.
- 15- Uterine artery clamp.
- 16- Wertheim's hysterectomy clamp (2 types).
- 17- Bonney's myomectomy clamp.
- 18- Doyen's myoma screw.
- 19- Self retaining abdominal retractors (types).
- 20- Female metal catheter.
- 21- IUCDs.

Obstetrics

- 1- Obstetric forceps (types).
- 2- Vacuum extractor.
- 3- Ovum forceps.
- 4- Ring forceps.
- 5- Sponge forceps.
- 6- Bozemann's double way catheter.
- 7- Rheistadtler's flushing curette.
- 8- Bozemann's dressing forceps.
- 9- Suction curette.
- 10- Amniotomy hook.
- 11- Drew Smythe's induction catheter.
- 12- Green Armytage's hemostasis forceps.
- 13- Willet scalp forceps.
- 14- Meltal mucus catheter.
- 15- Pinard's fetal stethoscope.
- 16- Doyen's retractor.

IV. TEACHING and LEARNING METHODS:

IV-A. METHODS USED:

1. Lectures
2. Clinical and small group sessions:
(Clinical demonstrations, practice of skills, lectures and discussions):

- a. General obstetrics and gynecological inpatient ward teaching
- b. Outpatient clinic (obstetrics and gynecology)
- c. Emergency department demonstration
- d. OR theatres.

IV-B. METHODS FOR DISABLED STUDENTS:

No special arrangements are available.

IV-C. TEACHING PLAN:

Lectures:

The lecture hall No 7 and 8 in Faculty of Medicine for 4th and 5th year respectively, daily from 11.30am till 12:30pm (general topics)

Clinical rounds and small group activities:

- Each term, students are divided into six equal groups; each group being assigned to one of the OBGYN units that constitute the department. Within each unit, students will have a clinical round in the morning from 9:00am – 10:00am discussing a clinical case from inpatients then they are subdivided to small groups to examine the patients. This occurs 3 times a week.
- The 4th day will be in the obstetric outpatient clinic, where they will take the history from an outpatient, then they will be subdivided to observe the residents while managing the obstetric clinic. Then watch the staff while doing the ultrasound and managing high-risk pregnant cases.
- The 5th day will be in the gynecology outpatient clinic, where they take history from an outpatient lady then are further subdivided into small groups with the residents to observe them while managing the outpatient clinic, also they can watch ultrasound being done by the staff members, and interpret different gynecological diseases.
- During the whole 5 days, there is also a lecture given to the students from 10:00am till 11:00am discussing one of the obstetrics or gynecological subjects according to the plan of teaching.

Time Plan

Item	Time schedule	Teaching hours	Total hours
Clinical rounds	Daily: 9:00am-10:00am (3 times a week)	18 sessions x 1hr	18 hrs
Lectures	Daily: 10:00am-11:00am (5 times a week) 11.30-12:30pm (6 times a week)	30 lectures x 1hr 36 lectures x 1hr	30hrs 36hrs
Outpatient obstetrics	9:00-10:00am once weekly	6 sessions x 1hr	6hrs
Outpatient gynecology	9:00-10:00am once weekly	6 sessions x 1hr	6hrs
Total			96hrs

V.TEACHING AND LEARNING FACILITIES:

Facilities used for teaching this course include:

LECTURE HALL: In the lecture hall building for the 1st and 2nd year medical students located over MEDC (lecture halls No 7 and 8)

SMALL GROUP CLASSES:

- 12 rooms at the clinical wards (units) of the OBGYN hospital. Writing boards are available in all rooms, overhead and slide projectors are available for use when needed.
- One teaching room between unit 32 and unit 33 with data show available when needed
- 4 rooms at the outpatient clinic in the OBGYN hospital

2 LIBRARIES:

the 1st in the second floor and the 2nd in the third floor with availability of computers.

CLINICAL FACILITIES:

- Obstetric outpatient clinic serving about 100 patients a day
- Gynecological outpatient clinic serving about 100 patient a day
- 6 general OB/GYN inpatients units in the hospital
- Emergency room serving about 60 patients a day
- Operating theater in the emergency room with 3 delivery rooms and 3 theaters
- Operating theater in the 2nd floor with 4 operating beds

PATHIOLOGY MUSEUM:

In the 3rd floor with:

- Specimens demonstrating different obstetrics and gynecological diseases
- Models used in demonstration
- Different instruments used in obstetric and gynecological practice

2 LABORATORIES:

One in the 1st floor for the general chemical and clinical tests, and the 2nd in the third floor for the hormonal profiles

V. STUDENT ASSESSMENT:**VI-A: ATTENDANCE CRITERIA:**

The minimum acceptable attendance is 75%. Students who fail to attend that percentage of activities will not be allowed to take the end of term examination. They may be allowed to take it during a subsequent term if they satisfy the required attendance, otherwise the marks allocated for the end of term examination would be reduced as a proportion from the final examination score. Students need to attend at least 60% in order to sit for the final examination. A log book for clinical cases and attendance in emergency department and theatre must be fulfilled.

VI-B: ASSESSMENT TOOLS:

TOOL	PURPOSE
Written examination	Assessment of knowledge and understanding (outcomes No 1-20)
Oral examination	Assessment of knowledge and understanding (outcomes 1-20) and outcomes 21-32
Clinical examination	Assessment of clinical skills (outcomes 21-32), and ethical and social skills (outcomes 33-36)

VI-C: ASSESSMENT SCHEDULE:

- **TERM EXAMINATION:** held at the end of each 3 clinical rounds. It is a short essay questions written exam for each 3 rounds together.
- **FINAL EXAMINATION:** at the end of the academic 5th year for all students of this year, and the one failing from the previous year

VI-D: GRADING SYSTEM:

Examination		Marks allocated
Term examination		
4 th year		40
Attendance		10
5 th year		40
Attendance		10
Final examination	Written	200
	Oral OB	50
	Oral GYN	50
	Clinical	50
	Museum specimens and instrument examination	50
Total		500

- The minimum passing score is marks provided at least marks are obtained in the final written examination
- Passing grades: EXCELLENT >85%, VERY GOOD 75-85%, GOOD 65-75%, and FAIR 60-65%.

VI-E: EXAMINATION DESCRIPTION:

Examination	Description		Marks
Term exam	Written (1.5 hours exam) 5 short essay questions in obstetrics (one is a clinical knowledge), to answer 4 of them.		40 (+ 10 marks for attendance)
	5 short essay questions in gynecology (one is a clinical knowledge), to answer 4 of them.		40 (+ 10 marks for attendance)
Final exam	Written (3 hours exam)	1 Long essay question and 5 short essay questions in obstetrics	100
		1 long essay question and 5 short essay questions in gynecology	100
	Oral	Two oral exams: Obstetrics	50
		Gynecology	50
	Clinical	One long case (history taking) followed by discussion of the case (whether obstetric or gynecological case)	50
	Museum specimens and instrument examination	Identification of jars (10 jars, 4 marks each) and instruments (5 instruments, 2 marks each).	50
Total			500 marks

VII. LEARNING AND REFERENCE MATERIALS:

VII-A. BASIC MATERIALS:

- Department books: available for students to purchase from different bookshops at the faculty.
- Overhead projections, slides, computer presentations used during teaching, jars and instruments

VII-B. SUGGESTED MATERIALS:

- CD-ROM containing topics and presentations in obstetrics and gynecology (available in MEDC)
- Novak' s gynecology 13th edition, 2002: available from bookshops at the faculty
- Speroff clinical gynecologic endocrinology and infertility, 6th edition, 1999: available at bookshops at the faculty
- Fernando-Arias high-risk pregnancy, 2nd edition, 1993: available at bookshops at the faculty
- Williams Obstetrics, 21st edition, 2001: available at bookshops at the faculty.

Cairo University
Faculty of Medicine
Department of Pediatrics

Course specifications

Course title:

PEDIATRICS

*Fifth year of M.B. & B.Ch. program
(3rd draft 2004/2005)*

Allocated marks:	500 marks
Course duration:	6 weeks of teaching; with a final end of year examination
Total teaching hours:	153 hrs Lectures: 62.5 hrs Clinical/small group sessions: 90.5 hrs
Course director:	Prof. Dr. Fadia Mahmoud Head of the Pediatrics Department
Teaching staff:	68 professors, 33 assistant professors, 36 lecturers and 35 assistant lecturers

I. AIM OF THE COURSE:

- To support acquisition of basic knowledge of normal and abnormal growth and development (physical, physiologic, psychosocial), and its clinical application from birth through adolescence.
- To enable students to provide basic health care for individuals in the Pediatric age group (neonates, infants, children and adolescents).
- To provide students with an appropriate background covering the common and important Pediatric emergencies and diseases .
- To enable the development and application of appropriate professional attitudes, communication and problem solving skills.

II. INTENDED LEARNING OUTCOMES:

II-A: KNOWLEDGE and UNDERSTANDING:

By the end of the course, students should be able to:

9. Describe normal growth and development during infancy, childhood and adolescence.
10. Describe appropriate management for abnormalities affecting growth and development.
11. Illustrate the impact of congenital and inherited diseases on children and their families.
12. Determine the nutritional requirements and the most common nutritional disorders affecting infants and children, and describe appropriate management for disorders.
13. Describe the indications, contraindications, administration and precautions of the immunizations necessary for infants and children according to the national schedule and the condition of the child.
14. Recognize the most important behavioral and social issues during childhood and adolescence.

15. Describe appropriate measures for health promotion as well as prevention of disease and injury in infants, children and adolescents.
16. Cite the management priorities for different neonatal and Pediatric emergencies.
17. Describe the causes, pathogenesis, clinical symptoms, signs, investigations, treatment and prognosis of the most important neonatal and Pediatric problems.*

II-B: CLINICAL SKILLS:

By the end of the course, students should be able to:

18. Check vital signs in neonates, infants, children and adolescents.
19. Assess physical and mental development in neonates, infants, children and adolescents according to standard milestones and recognize abnormalities.
20. Perform appropriate clinical and anthropometric assessments for the nutritional status of infants and children.
21. Recognize and institute appropriate initial management for different neonatal and Pediatric emergencies.
22. Assess, classify and describe appropriate treatment for sick children below the age of five years according to the principles of the Integrated Management of Childhood Illness (IMCI).
23. Construct a proper history for a patient in the Pediatric age group.
24. Perform an adequate clinical examination for a patient in the Pediatric age group and identify deviations from normal.

II-C: INTELLECTUAL SKILLS:

By the end of the course, students should be able to:

25. Interpret the most important symptoms and signs of disease in Pediatric patients.
26. Formulate appropriate management plans for individual patients presenting with the most common Pediatric disorders. The management plan should indicate investigations (and how they would be interpreted) as well as treatment.
27. Make decisions regarding common clinical situations using appropriate problem solving skills using evidence based medicine and relevant ethical principles.
28. Interpret X ray and CT films, blood gas and blood picture reports covering the most important Pediatric conditions.**

II-D: GENERAL SKILLS:

By the end of the course, students should be able to:

29. Present patient's data in an organized and informative manner.
30. Communicate effectively with children, adolescents and their families using appropriate communication skills.
31. Demonstrate appropriate professional attitudes and behaviors in different practice situations.

* Refer to the **topic list**

** Conditions are listed in the **Diagnostic Tools list**.

III. COURSE CONTENTS:

III-A: TOPICS:

TOPIC	% total hrs	No. of hrs		
		TOTAL	Lectures	Practical/ small groups
1 Social and Preventive Pediatrics	6	9	6	3
2 Growth and Development	4	6	3	3
3 Nutrition	7.5	11.5	4	7.5
4 Perinatology/Neonatology	12	18	0	18
5 Genetics and Dysmorphology	5	8	4	4
6 Nephrology	4.5	7	3	4
7 Cardiology	8	12.5	5.5	7
8 Respiratory System	8.5	13	6	7
9 Hematology/Oncology	8	12	4.5	7.5
10 Infectious and Parasitic Diseases	5.5	8.5	3	5.5
11 Endocrinology	3.5	5	3	2
12 Neurology	6.5	10	4.5	5.5
13 Gastroenterology and Hepatology	10	15.5	6	9.5
14 Pediatric Emergencies	9	14	9	5
15 Behavioral Pediatrics	2	3	1	2
TOTAL	100	153	62.5	90.5
			(41%)	(59%)

1. Social and Preventive Pediatrics

Patterns of morbidity and mortality in the society, Integrated Management of Childhood Illness (IMCI) and its role in preventive and social aspects of pediatrics, prevention of infections; compulsory vaccination schedule, other vaccines, prevention of injuries

2. Growth and Development

Normal growth and growth charts, abnormalities in growth and development

3. Nutrition

Nutritional requirements, breast-feeding, formula-feeding, nutritional disorders

4. Perinatology/ Neonatology

Normal newborn, neonatal resuscitation, growth of the newborn, neonatal convulsions, respiratory disorders, jaundice, metabolic disorders, hematological disorders, infections, birth injuries and surgical emergencies.

5. Genetics and Dysmorphology

Chromosomal disorders, single gene disorders, multifactorial inheritance, dysmorphism.

6. Nephrology

Nephrotic syndrome, glomerulonephritis, urinary tract infection, renal failure, enuresis

7. Cardiology

Congenital heart disease, rheumatic heart disease, heart failure, infective endocarditis, hypertension, arrhythmias

8. Respiratory system

Upper and lower respiratory system disorders, bronchial asthma

9. Hematology/ Oncology

Anemias, bleeding disorders, common childhood malignancies

10. Infectious and Parasitic diseases

Febrile illness, rashes, specific infections, antipyretic drugs, antibiotics

11. Endocrinology

Thyroid gland, diabetes

12. Neurology

Mental retardation, epilepsy, CNS infections, cerebral palsy, hydrocephalus, microcephaly, neuromuscular disorders

13. Gastroenterology and Hepatology

- a) Gastroenteritis and dehydration, vomiting, oral lesions, abdominal pain and masses
- b) Viral hepatitis, chronic hepatitis, liver cirrhosis and portal hypertension, cholestasis, hepatosplenomegaly

14. Pediatric Emergencies

Principles of pediatric emergency medicine; respiratory, cardiovascular, neurological and metabolic emergencies, poisoning and serious injuries

15. Behavioral Pediatrics

Pediatric behavioral and social problems, ethics and professional attitudes relevant to Pediatrics

III-B: CLINICAL CASES:

1.Nutrition: Protein energy malnutrition, Rickets

2.Genetics: Down syndrome (trisomy 21)

3.Neonatology: Full term and preterm newborn, Neonatal hyperbilirubinemia, Neonatal sepsis

4.Infections: Febrile illness, Exanthemata, Parotid swelling

5.Pulmonology:

Upper respiratory system: Viral URTI, stridor, otitis media, tonsillitis

Lower respiratory system: Bronchitis, bronchiolitis, pneumonia, bronchial asthma

6.Cardiology

Congenital heart disease: Cyanotic (as Tetralogy of Fallot), Acyanotic as VSD, ASD

Rheumatic heart disease:

7.Neurology: Mental retardation, large head (hydrocephalus), cerebral palsy, floppy infant (Werdnig-Hoffmann), acute paralysis (Guillain-Barre), myopathy as Duchenne dystrophy

8.Nephrology: Nephrotic syndrome, renal masses

9.Gastroenterology and Hepatology: Gastroenteritis and dehydration, hepatitis,

hepatosplenomegaly, abdominal masses, ascites, cholestasis

10.Hematology: Chronic hemolytic anemia, purpura and ecchymosis, leukemia

11.Endocrinology: Congenital hypothyroidism, short stature

12.Pediatric emergencies: Stridor, wheezy chest, respiratory distress, shock, severe dehydration, heart failure, convulsions, hyperpyrexia, hypothermia, hypoglycemia, diabetic ketoacidosis, acute anemia, bleeding.

III-C: DIAGNOSTIC TOOLS:

X-rays

Cardiac radiology

Normal heart X-ray
Cardiomegaly
Special cardiac configuration
Pericardial effusion

Chest radiology

Normal chest X-ray
Lobar pneumonia
Bronchopneumonia
Pleural effusion
Lung collapse
Lung abscess
Pneumothorax
Hydropneumothorax
Miliary shadow
Hyaline membrane disease
Congenital lobar emphysema
Diaphragmatic hernia

GI radiology

Multiple fluid levels
Pneumoperitoneum
Pyloric stenosis
Tracheo-esophageal fistula

Skull radiology

Normal skull X-ray
Skull fractures
Intracranial calcification
Increased intracranial pressure

Long bones

Rickets
Achondroplasia
Osteogenesis imperfecta

CT scan of the head

Normal CT scan at different levels
Plain CT and contrast-enhanced CT
Intracranial hemorrhage
Intracranial calcification
Cerebral infarction
Brain abscess
Brain tumours
Brain edema
Brain atrophy
Hydrocephalus (obstructive and communicating)
Cranial lesions (skull fractures)

Blood picture

Anemia (different types)
Thrombocytopenia
Leukocytosis and leukopenia
Pancytopenia
Picture of bacterial infection
Leukocytosis
Bandemia
Toxic granulations
Leukemia

Blood gas analysis

Normal blood gases
Arterial and venous samples
Assessment of oxygenation
Assessment of ventilation
Assessment of acid-base status
Metabolic acidosis
Metabolic alkalosis
Respiratory acidosis
Respiratory alkalosis

IV. TEACHING & LEARNING METHODS:

IV-A: METHODS USED:

1. Lectures

2. Clinical and small group sessions:

2-1: Clinical training

(clinical demonstrations, practice of skills, and discussions)

(a) General Pediatric inpatient ward teaching

(b) Outpatient clinic and Emergency department teaching

(c) Neonatal unit teaching

2-2: Tutorial classes (small group teaching)

IV-B: METHODS FOR DISABLED STUDENTS:

No special arrangements are available.

IV-C: TEACHING PLAN:***Lectures:***

The lecture hall on the 3rd floor of the Center for Social and Preventive Medicine; daily from 8.30 – 10 am (general topics) and thrice-weekly from 12.00–1 pm (Social, preventive and primary care topics)

Clinical rounds and small group activities:

Each term, students are divided into six equal groups; each group being assigned to one of the general Pediatrics units that constitute the department. Within each unit, students will be divided further into two groups during morning clinical rounds (four days a week) and noon tutorial (once a week). The fifth and sixth days will be allocated to outpatient and neonatology teaching. The particular weekdays will depend on the staff-round and out-patient clinic days for each unit:

- **Out-patient teaching sessions:** following a core session at the center of social and preventive medicine (for both groups separately), students will be alternately distributed between the emergency room & gastroenterology out-patient unit. Practical training on the IMCI protocol will take place during the out-patient sessions.
- **Neonatology teaching sessions:** teaching at the NICU of Monira Pediatric Hospital and Kasr El Aini Obstetrics and Gynecology Hospital (three weeks each; alternating between both groups).

Time plan:

Item:	Time schedule	Teaching hours	Total hours
Lectures	Daily: 8.30 – 10.00 am	31 lectures x 1.5 hrs	62.5 hrs
	Preventive & social:	16 lectures x 1 hr	
	3 days weekly: 12 – 1 pm	2 lectures x 3 hrs	6 hrs
	Diagnostic tools: 2 lectures 8.30 – 11.30		
Clinical	10.00 – 12.00 noon	22 sessions (4x 5 wks)	44 hrs

rounds	4 days weekly at each unit (each of the two groups separately)	and twice in 6 th week) x 2 hrs	
Tutorial	12.00 – 1.30 pm once weekly for each group	5 wks x 1.5 hr	7.5 hrs
Out-patient & emergency	Once weekly for 6 weeks: OPC session: 10.00 – 12.00 noon Once weekly for 3 weeks: ER/ GE clinic: 12.00 – 1.00 pm	6 wks x 2 hrs 3 wks x 1 hr	15 hrs
Neonatology	Once weekly for 6 weeks: 10.00am – 1.00pm	6 wks x 3 hrs	18 hrs
TOTAL			153 hrs

V. TEACHING AND LEARNING FACILITIES:

Facilities used for teaching this course include:

LECTURE HALL: at the Center for Social and Preventive Medicine. Writing board, overhead and slide projectors are available. Data show is available with prior arrangements.

SMALL GROUP CLASSES:

- 12 rooms at the clinical wards (units) of Monira Pediatric Hospital and Cairo University Specialized Pediatric Hospital. Writing boards are available in all rooms; overhead and slide projectors are available for use when needed.
- A teaching room at the neonatal unit of each of Monira Pediatric Hospital and Kasr El Aini Obstetrics and Gynecology Hospital.
- Two rooms at the Center for Social and Preventive Medicine (used for outpatient teaching) and a room at the outpatient clinic of Monira Pediatric Hospital.

LIBRARY:

6th floor of Cairo University Specialized Pediatric Hospital.

CLINICAL FACILITIES:

- General and specialized outpatient clinics serving over 1000 patients daily.
- 6 general Pediatrics inpatient units in two hospitals.
- Specialized Pediatric units including:
 - 2 Neonatology units at each of Monira Pediatric Hospital and Kasr El Aini Obstetrics and Gynecology Hospital.
 - Gastroenterology unit (outpatient, inpatient and emergency services).
- Emergency service available through the emergency units of both hospitals.

SKILLS LAB/ MODELS:

Neonatal resuscitation model.

VI. STUDENT ASSESSMENT:

VI-A: ATTENDANCE CRITERIA:

The minimum acceptable attendance is 75%; students who fail to attend that percentage of activities will not be allowed to take the end of term examination. They may be allowed to take it during a subsequent term if they satisfy the required attendance, otherwise the marks allocated for the end of term examination would be recorded as a proportion from the final written examination score. Students need to attend at least 60% in order to sit for the final examination.

VI-B: ASSESSMENT TOOLS:

TOOL		PURPOSE
Written examination		Assessment of knowledge and understanding. (outcomes #1-9)
Oral examination		Assessment of knowledge and understanding. (outcomes #1-9) and outcomes #17 & 23
Diagnostic examination tools		Assessment of the ability to interpret X ray and CT films, blood picture and blood gas reports (outcome #20).
Clinical examination	Long case	Assessment of clinical skills (especially outcomes #15 & 16), intellectual (outcomes #17, 18 and 19) and general skills (outcomes #21, 22 & 23)
	Short case	Assessment of clinical skills (outcomes #10-16), and outcomes #17, 21 and 22
Log book		Assessment of clinical skills (especially outcomes #13-16)

VI-C: ASSESSMENT SCHEDULE:

- **TERM EXAMINATION:** held at the end of each clinical rotation. Students must submit their logbooks in order to be admitted to the examination.
- **FINAL EXAMINATION:** at the end of the academic year for all students.

VI-D: GRADING SYSTEM:

Examination:		Marks allocated
Term examination		100
Final Examination	Written	200
	Oral	60
	Practical (clinical and diagnostic tools)	140
TOTAL		500

- The minimum passing score is **300 marks** provided at least **60 marks** are obtained in the final written examination.
- Passing grades are: EXCELLENT $\geq 85\%$, VERY GOOD 75- <85%, GOOD 65- <75% and FAIR 60- <65%.

VI-E: EXAMINATION DESCRIPTION:

1. Logbook: must be completed during the term and every student should have:

- Attended at least two emergency room sessions.
- Seen at least five emergency cases (listed in the *list of clinical cases*).
- Participated satisfactorily in the assessment and classification of patients according to the IMCI protocol on two different outpatient sessions.

- Actively participated in case taking and discussion at least twice during inpatient clinical teaching sessions.

2. Examinations:

Examination		Description	Marks
End of term (100 marks)	Clinical	ONE LONG CASE: The student will be allowed 20 minutes with the patient during which he/she is expected to take a history and perform physical examination. Subsequently, the student would present the case to the examiner; who will also ask the student to demonstrate specific parts of the examination on the patient and may ask about interpretation of findings, differential diagnosis, management plan as well as related background knowledge. TWO SHORT CASES: The student will be asked to examine the patient and may be guided (eg to examine a specific system). The student is required to make a written response which will be assessed.	Long case: 25marks Short case: 2x 12.5marks
	Diagnostic tools	Includes five items: 2 X-rays, one CT, one blood picture & one blood gas report They will be shown for 5 minutes each; during which the student is required to make written comments which will be subsequently assessed.	25marks
	Oral	One oral examination station	25marks
FINAL	Written (200marks)	A 2-hours written paper composed of short essay type questions	200marks
	Oral & Practical (200marks)	Clinical: One long case (as above) Two short cases: 1. The student will be asked to examine the patient and may be guided (eg to examine a specific system). The student is required to make a written response which will be assessed. 2. The student will be required to assess and classify an infant or child based on IMCI protocol.	Long case: 40marks Short case: 2x30marks
		Diagnostic tools: 8 items: 4 X-rays, two CT scans, one blood picture & one blood gas report	40marks
		Oral : Two oral examination stations	2x30marks
TOTAL			500marks

VII. LEARNING AND REFERENCE MATERIALS:

VI-A: BASIC MATERIALS:

- **Department books:** available for students to purchase from different bookshops at the faculty.
- Overhead projections, slides and computer presentations used during teaching.

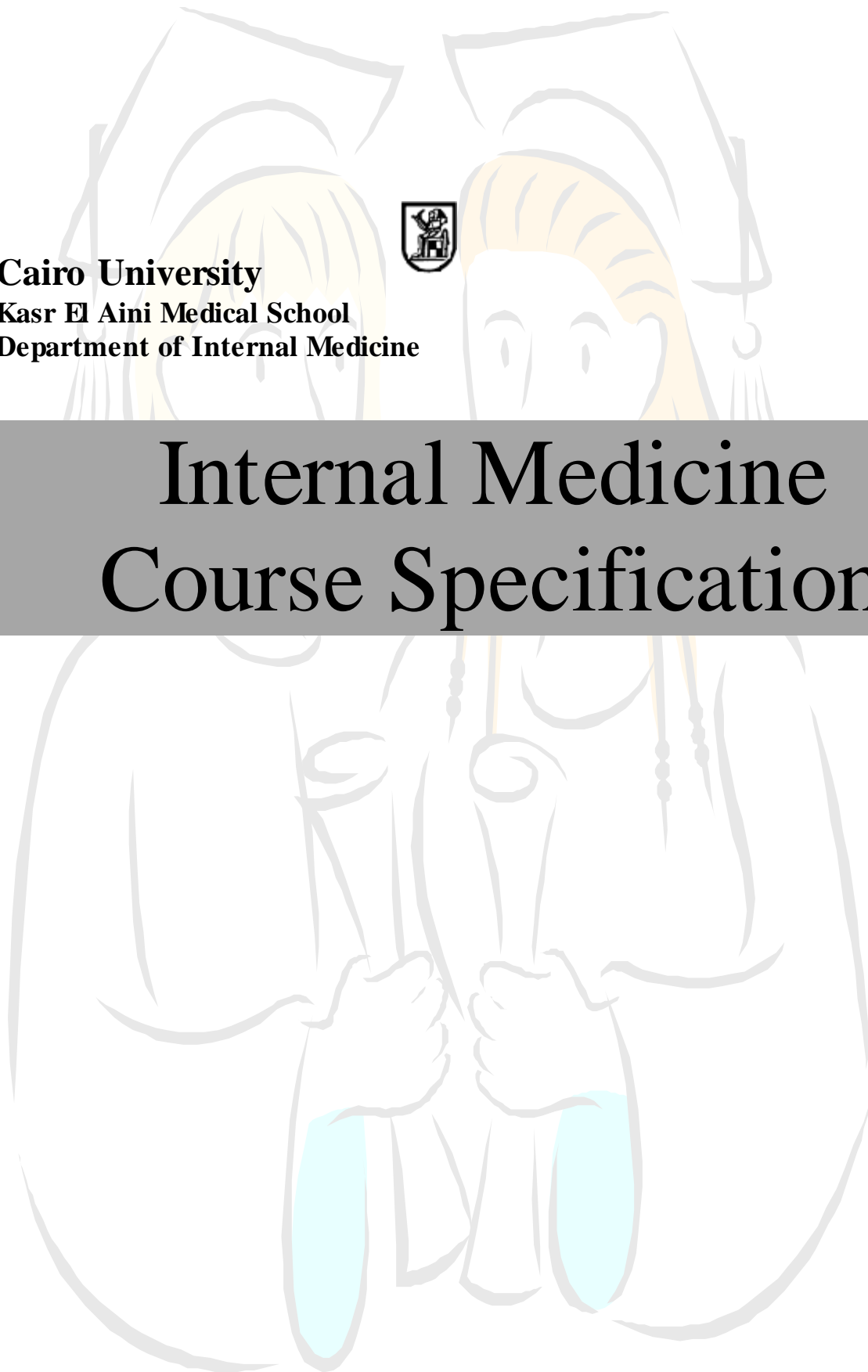
VI-B: SUGGESTED MATERIALS:

- CD-ROM containing topics and presentations in neonatology (available to students).
- Nelson's "Essentials of Pediatrics" (available from bookshops at the faculty)

Cairo University
Kasr El Aini Medical School
Department of Internal Medicine



Internal Medicine Course Specification



Course title:**Internal Medicine**
4th year, 5th year, and 6th year course of M.B.B.ch Program**Allocated marks:** 900 marks**Course duration:** 4 weeks of teaching in the 4th year
6 weeks of teaching in the 5th year
16 weeks of teaching in the 6th year**Course director:** Prof. Mohamed Reda Awadin
Head of Internal Medicine department**Teaching staff:** 86 Professors, 55 assistant professors, 60 lecturers, assistant lecturers, and demonstrators

I. Aim of the Course

By the end of the internal medicine course;

1. To support acquisition of knowledge and understanding of health and its promotion, and of disease, its prevention and management, in the context of the whole individual and his or her place in the family and in society.
2. To enable the student to acquire and become proficient in basic clinical skills such as obtaining a patient's history, undertaking a comprehensive physical and mental state examination, interpreting the findings and constructing diagnostic and treatment plans. The student should be competent in the performance of a limited number of basic technical procedures and become proficient in listening and responding to patients concerns.
3. To enable the students to acquire and demonstrate attitudes necessary for the achievement of high standards of medical practice, both in relation to the provision of care of individuals and populations and to his or her personal development including a lifelong commitment to continuing medical education.

II. Intended Learning Outcomes:

By the end of the internal medicine course, the student will be able to:

(i) Knowledge and Understanding :

1. Discuss the common medical problems presenting to doctors - in primary health care setting, hospital and community - their diagnosis, prevention and treatment.
2. Identify disease in terms of mental, functional and physical processes
3. State the clinical manifestations and differential diagnosis of common medical disorders with an emphasis on the incidence of the different manifestations and their relative importance in establishing diagnosis, and the early manifestations of serious diseases (e.g. malignancy, emergencies ...etc)
4. Recognize the normal aging process in terms of physiologic and clinical manifestations and identify age related diseases and variable causes of disability in old age.
5. Name the role, prevalence and limitations of alternative and complementary medicine.

(ii)

Skills:

Professional Skills:

6. Take a thorough history of appropriate depth and detail, relative to the clinical context.
7. Demonstrate a complete and/or problem-focused physical examination.
8. Recognize urgent life-threatening conditions, and institute appropriate initial management.
9. Safely perform routine diagnostic and therapeutic procedures, including life support.
10. Use appropriate sterile technique, Comply with and use universal precautions.

Intellectual skills:

11. Analyze symptoms & signs and construct a differential diagnosis for common presenting complaints.
12. Design an appropriate diagnostic plan for evaluation of common presenting complaints which is appropriate in terms of the differential diagnosis, the severity of the clinical situation and the risks, benefits and costs to the patient.
13. Accurately interpret the results of commonly used diagnostic procedures.
14. Identify risk factors for disease processes and injury, and institute the appropriate diagnostic, preventive, and therapeutic interventions.
15. Identify the indications and logistics of referring patients to higher levels of experience or specialization as a principle for the family doctor (GP).
16. Construct treatment plan, incorporating his knowledge, best available evidence, and patient's preferences in a cost effective manner.

Communication and general skills:

17. Establish rapport and trust with the patient.
18. Explain to the patients and their relatives the nature of illness, the diagnostic and therapeutic options and Recommend life style modification in compassionate and ethical way.
19. Respond effectively to a patient's emotional and psychosocial concerns.
20. Interact and communicate effectively with other health care professionals.
21. Document fully the patient's history and examination findings, list the clinical problems and Present relevant material clearly, concisely, coherently, and legibly so that information about patients may be communicated effectively.
22. Allay patient anxiety regarding procedures.
23. Manage time effectively and demonstrate skills needed for life long learning.

(iii) Attitudes:

24. Adopt respect for patients and colleagues that encompasses, without prejudice, diversity of background, opportunity, language, culture and way of life.
25. Advocate respect of patients' rights, particularly in regard to confidentiality and informed consent.
26. Justify incorporation into their practice of appropriate attitudes, clinical ethics and legal responsibilities.

III. Course Contents:

III. 1: Topics:

Topic	% total hrs	No of hrs		
		Total	Lectures	Practical/ small groups
Cardio Vascular topics	15%	60	10	50
Respiratory topics	15%	60	10	50
GIT & hepatology topics	15%	60	10	50
Neurology topics	15%	60	10	50
Hematology topics	5%	20	5	15
Nephrology topics	5%	20	10	10
Rheumatology topics	5%	20	5	15
Endocrinology topics	5%	20	10	10
Infections topics	5%	10	8	2
Geriatric topics	2.5%	5	3	2
Genetics topics	2.5%	5	5	0
Ethics & law topics	5%	10	5	5
EBM topics	5%	10	5	5
Total	100%	360	96	264
			26.7%	73.3%

Lectures:

=====

4th Year Lectures

Symptomatology

Dyspnea
Chest pain
Oedema
Cough and expectoration
Hemoptysis
Palpitation
Musculoskeletal pains
Disorders of appetite
Dysphagia

Abdominal pain
Dyspepsia
Gastrointestinal Hemorrhage
Disorders of defecation
Jaundice
Fatigue
Headache and migraine
Vertigo
Abnormalities of urine

Ethics and Law Lectures

Informed consent

Refusal of treatment
Autonomy

Life, Death, Dying and Killing, and Organ Transplantation
Confidentiality and Good Clinical Practice

5th Year Lectures **Some common disorders**

Hypertension

Heart failure

Diabetes

T.B

Atherosclerosis

Anemia

Hemorrhagic diathesis

Lymph node enlargement

Coma and disorders of consciousness

Shock

Systemic inflammatory response syndrome

Geriatric medicine Lectures

Effect of aging on body systems

Falls

Urinary incontinence

Cognitive disorders in the elderly

Delirium in the elderly

Prescribing for the elderly

Genetics Lectures

Nucleic acids

Recombinant DNA technology

Chromosomal abnormalities

Regulation of Gene Expression

Immunogenetics

Evidence based medicine

Introduction

How to formulate a question

Resources

Appraisal of a paper about diagnosis

Appraisal of a paper about therapy

6th Year Lectures

Cardiology Lectures

Rheumatic fever

Infective endocarditis

Ischemic heart disease

Hypertension

Cor pulmonale

Pulmonary embolism

Arrhythmias

Heart failure

Pericarditis

Large vessel disease

Cardiovascular drugs

Cardiomyopathy

Congenital heart disease

Respiratory diseases Lectures

Asthma/chronic bronchitis

COPD

Upper respiratory infections

Pneumonias

Suppurative lung syndrome

Tuberculosis

Interstitial disease

Emphysema

Respiratory failure

Bronchial carcinoma

Lung systemic disease

Occupational lung disease

pleural diseases

Mediastinal syndrome

pulmonary function tests

Drug induced pulmonary disease

GIT & Hepatology Lectures

Esophagus, Gastroesophageal junction disorders, and dyspepsia

Peptic ulcer Medical treatment

Diarrheas and dysenteries & Malabsorption syndrome

Acute hepatitis & Chronic hepatitis

Cirrhosis, Portal hypertension, Upper GIT bleeding, Ascites, and Hepatocellular failure

Functional colonic disorders
Inflammatory bowel disease

Neurology Lectures

Neurological localization

Cerebral atherosclerosis

CV stroke

Hemiplegia

Neurogenic bladder disorders

Ataxia

Extrapyramidal syndromes

Peripheral neuropathy and radiculopathies

Meningitis /encephalitis

Metabolic encephalopathies

Epilepsy and convulsive disorders

Speech abnormalities

Paraplegia

Diseases of muscles and neuromuscular junction

Space occupying lesions

Dementia

Coma

MS

Hematology/ Oncology Lectures

Hematopoiesis

Anemias

Lymphadenopathy

Acute leukemia

Myeloproliferative disorders

Chronic leukemia

Bone marrow failure

Bleeding disorders

Anticoagulants

Blood transfusion

Lymphomas

Thrombophilia

Nephrology Lectures

Structure and function

Major clinical symptoms in nephrology

Acute renal failure

Chronic renal failure

Urinary tract obstruction

Urinary infection and reflux nephropathy

Nephrotic syndrome

Acute nephritic syndrome

Diabetic nephropathy

Investigations of renal disease

Water, electrolyte and acid base balance

Diuretics

Drugs and the kidney

Renal replacement therapy

Kidney in systemic disease

Rheumatology Lectures

Classification and DD of arthropathies

Rheumatoid arthritis

Systemic lupus erythematosus

Drugs used in rheumatic diseases

Corticosteroids and other immunosuppressive agents

Basic immunology and immune diseases

Seronegative arthropathies
Gout
Osteoarthritis
Osteoporosis
Non-articular rheumatic disorders

Other autoimmune joint diseases
Infective arthritis
Reactive arthritis
Vasculitis

Infections Lectures

Enteric fevers
Brucellosis
Meningitis
Schistosomaliasis
Tuberculosis
Amebiasis

Malaria
Leishmaniasis
Filariasis

HIV
PUO
Diagnosis of parasitic diseases
Antibiotics
Antihelminths
Cholera and tetanus
Fascioliasis and eosinophilic
syndrome
Rabies
Physical agents

Endocrinology & Metabolism Lectures

Diabetes

Hypoglycemia
Thyrotoxicosis & Hypothyroidism
Sheehan's and other hypopituitary
disorders
Diabetes insipidus and SIADH
Hyperparathyroidism and metabolic
bone disease, Tetany and calcium
homeostasis

Stunted growth & Acromegaly and
other pituitary tumors
Obesity, Vitamins & Nutritional
deficiency
Dyslipidemia

Cushing syndrome & Addison's
disease

Gonadal disorders

Alternative and complementary medicine

The role, prevalence and limitations of alternative and complementary medicine.

Psychiatry lectures

*See the attached appendix 2

Seminars:

=====

Anticoagulants, antiplatelets, and thrombolytic therapy

Antibiotics and chemotherapeutics

Anti inflammatory and immunosuppressive drugs

FUO

Myocardial and pericardial diseases

Neurotransmitters

Metabolic bone diseases

Approach to a patient with chest pain

Approach to a patient with poly arthritis

Approach to a patient with metabolic coma

Approach to a patient with jaundice

Medical causes of acute abdominal pain

Approach to a patient with anemia

Approach to a patient with renal failure

Approach to a patient with heart failure

Approach to a patient with arrhythmia

Approach to a patient with bronchial asthma

III. 2: Clinical cases

CARDIOVASCULAR

1. Dysrhythmias
2. IHD
3. Congestive heart failure
4. Hypertension – evaluation
5. Valvular heart disease - clinical features, diagnostic methods, interpretation of data
6. Evaluation of chest pain
7. Cardiomyopathy.
8. Large vessel disease

RESPIRATORY

1. Asthma
2. Obstructive lung disease - chronic bronchitis, emphysema
3. Pleural effusion
4. Suppurative syndrome
5. Pulmonary emboli
6. Respiratory Failure - acute and chronic
7. Carcinoma of the lung
8. T.B
9. Mediastinal syndrome
10. Interstitial lung disease

GASTROINTESTINAL

1. Abdominal pain
2. Cirrhosis
3. Ascitis
4. Diarrhea - diagnosis and management of acute and chronic diarrhea
5. G.I. bleeding
6. Hepatitis
7. Jaundice - differential diagnosis
8. Malabsorption
9. Nausea and vomiting
10. Peptic ulcer disease
11. Ulcerative colitis, regional enteritis

NEUROLOGY

1. Cerebrovascular disease - stroke syndromes
2. Coma
3. Headache
4. Paraparesis
5. Seizures
6. Peripheral neuropathy.
7. Myopathy
8. Ataxias
9. Extrapyrmidal syndromes
10. Dementia

RHEUMATOLOGY

1. Degenerative joint disease
2. Gout
3. Low back pain
4. Systemic lupus erythematosus
5. Rheumatoid arthritis
6. Vasculitis

ENDOCRINOLOGY

1. Adrenal insufficiency and Cushing
2. Acromegaly and Sheehan's syndrome
3. Diabetes
4. Stunted growth
5. Hyper/hypothyroidism
6. Parathyroid and calcium metabolism/osteoporosis
7. Obesity

HEMATOLOGY/ONCOLOGY

1. Anemia
2. Clinical evaluation of bleeding – clotting disorders
3. Hodgkin's disease, lymphoma - stages, principles of treatment
4. Leukemia
 - a. acute lymphocytic, myeloid
 - b. chronic lymphocytic, myeloid
5. Multiple myeloma
6. Thrombocytopenia
7. Lymphadenopathy

INFECTIOUS DISEASE

1. Endocarditis
2. FUO
3. Pneumonia
4. Tuberculosis
5. Hepatitis

NEPHROLOGY

1. Evaluation of hematuria
2. Kidney in systemic diseases
3. Glomerulonephritis
4. Nephrotic syndrome
5. Obstructive uropathy
6. Principles of diagnosis and management of acute and chronic renal failure

SKIN

*See attached appendix1

III. 3: Medical skills A

1. Aseptic technique.
2. Procedures involving veins:
 - venepuncture for blood sampling (including safe use of blood containers)
 - Insert and remove cannula into peripheral vein.
 - Set up intravenous fluid infusion.
 - Give intravenous injections.
 - Mix and inject drugs into intravenous bag.
 - Use an infusion pump to give drug treatment.

3. Give intramuscular and subcutaneous injections
4. Blood transfusion - takes blood for cross match and monitor a blood transfusion.
5. Arterial blood sampling.
6. Insert nasogastric tube/principles of nasogastric feeding.
7. Bladder catheterization.
8. Measure blood glucose using finger prick sample and stix
9. Urine dipstick and analysis.
10. Administer oxygen therapy safely.
11. Perform an ECG.
12. Perform basic respiratory function tests (measurement of peak expiratory flow rate and interpretation of peak flow charts).
13. Cardiopulmonary resuscitation

For each of these skills, the student should be able to:-

- Competently perform the procedure.
- Identify the indications, contraindications, and potential complications of the procedure.
- Recognize the relevant points of anatomy and technical features of the equipment.

III. 4: Medical skills B:

Clinical Diagnostic Studies

The course content includes an introduction to, indications for, and interpretation of Clinical Laboratory tests, plain and contrast Radiography, Ultrasound, Computed Tomography, Magnetic Resonance Imaging, and Electrocardiography. The emphasis of this course is on diagnostic studies necessary for the proper evaluation of common disease entities seen in a primary care setting. Specific methodologies will not be covered, rather, the definition of tests, their indications and proper interpretation are taught.

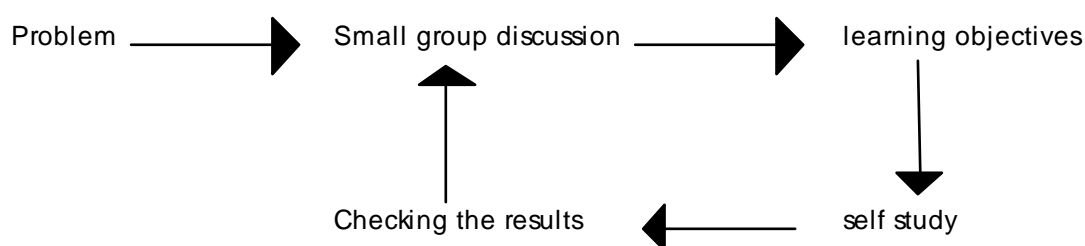
The following Topics will be covered:

1. Introduction to laboratory medicine; interpretation of tests.
2. Diagnosis of infectious diseases by laboratory methods.
3. Hematology: introduction & anemia.
4. Hematology: white blood cell disorders.
5. Hematology: coagulation.
6. Urinalysis & renal function evaluation.
7. Blood chemistry panels & cholesterol.
8. Glucose.
9. Thyroid function tests.
10. Miscellaneous laboratory tests.
11. Electrocardiography: ECG interpretation I.
12. Electrocardiography: ECG interpretation II.
13. Electrocardiography: ECG interpretation III.
14. Radiology: introduction and basic concepts.
15. Radiology: the chest.
16. Radiology: the abdomen.
17. Radiology: the musculoskeletal system.
18. Radiology: nuclear medicine, ultrasound, and CT.

IV. Teaching Methods

IV. 1: Methods Used:

- i. **Illustrated Lectures:** (ILOs: 1, 2, 3, 4, 5)
Large group plenary sessions in lecture theatres are timetabled, 6hours weekly. They are not intended to convey factual information with students busy taking notes. Instead they are akin to 'key-note addresses', designed to support self education principle. They set the scene for a particular topic, highlight important issues and, hopefully, arouse curiosity in relevant areas. It is left to students to go and explore the subject in critical detail.
- ii. **Seminars:** (ILOs: 1, 2, 3,4,12, 14, 15, 16, 23)
 Students are expected to search and prepare certain topic in a teamwork manner. This work will be orally presented using information technology, role play and group discussion under supervision of a senior tutor for 2 hours. Seminars are held once weekly every Monday during senior term session I. (see time table)
- iii. **Clinical Rounds:** (ILOs: 1,2,3,4,6,7,8,17,18,19,16,21, 24,25,26)
 Tutors demonstrate the core practical clinical skills that are an essential prelude to undertaking a confident and competent clinical history and examination of patients and student practice these skills on patients under supervision for 3 hours daily, 4 days weekly.
- iv. **Problem-based learning (PBL):**{ILOs: 1,2,3,4,11,12,13,14,15,16,23}
 Students work in **small groups** to study written descriptions of clinical situations. By using a specific set of study skills, they use those scenarios to guide them towards relevant theoretical and practical learning.



PBL tutorials are shared learning in **small groups** with other students aiming at developing skills in communication, teamwork and leadership. Other objectives include the ability to learn from and contribute to a team, and to offer and to receive constructive peer review under supervision of tutor.

- v. **Tutorials:**(ILOs: 13)
 For giving introduction, indications, and interpretation of clinical laboratory tests, radiography, and electrocardiography. Students in small groups then work on ECGs, lab reports, and X- rays to identify abnormalities, interpret findings, and put diagnosis.

- vi. **Practical clinical techniques: (ILOs: 9, 10)**
focus on the development of practical skills appropriate to the clinical situation. Students have to demonstrate sufficient knowledge and skill before undertaking invasive clinical procedures on patients. Medical skills Lab allow students to develop many medical skills in the relative 'safety' of simulation.
- vii. **Role play(ILOs: 18, 25)**
Students work in **small groups** to study written scenarios, each students work with a colleague. One plays the role of the patient and the other play the role of the doctor. This method is essential in learning ethics and communication skills. Tutors will supervise and guide students.
- viii. **Assignment: (ILOs: 23)**
each student completes a critical review on a selected topic. The review must be fully referenced and submitted in word-processed form 1200 word at least and delivered in a known dead time.

IV. 2: Methods for Disabled Students:

No special arrangements are available

IV. 3: Time Plan:

				Level A "Basic Term"		Level B "Junior Term"			Level C "Senior Term"		
Session I		Time		4 Weeks		6 Weeks			14 Weeks		2 Week
		8:00 9:00	AM AM	Medical Skills "A"	Ethics & Communication Skills	EBM	Self Learning Skills	Time Management skills	Medical Skills "B"	Seminars & PBL	ICU Internal Medicine
		9:00	AM	4th Year Induction Clinical Course		5th Year Junior Clinical Course			6th Year Senior Clinical Course		
		11:30	AM								
				Break		Break			Break		
Session II		12:00 1:00	PM PM	Lectures		Lectures		Small Groups		Medical Specialties	
Session III		1:00 2:00	PM PM						Lectures		

V. Teaching and learning facilities

Facilities used for teaching this course include:

- Lecture halls A & B
- Rooms for small groups teaching
- Black and white boards
- Audio visual aids (data shows, overhead, slide projector....etc)
- Electronic library
- Faculty library
- Skills lab
- Beds and clinical facilities of Kasr Al-Aini teaching hospital

VI: Assessment

VI-1 Attendance criteria:

The **prerequisite** for entry to the final examination is satisfactory completion of the Clinical and Skills Logbooks and assignment, satisfactory attendance in lectures, seminars, and clinical rounds.

Students are expected to attend most of the lessons of the clinical terms and lectures during the internal medicine course (minimum requirements 75% of each of the clinical course, seminars and lectures). The students are expected to present at least 1 seminar, 3 cases in the junior clinical term and 4 cases in the senior clinical term. This will be documented by the tutor in the **student's log book**.

VI-2 Assessment Tools:

Tool	Purpose
Written Exam	Assess ILOs: 1,2,3,4,5,11,12,13,14,15,16
MCQs	Assess ILOs: 1,2,3,4,5,11,12,13,14,15,16
OSCE & Short cases exam	Assess ILOs: 7,8,9,11,12
Long case exam	Assess ILOs: 6,7,8,11,12,13,14,15,16,17,18,19,20,21,23,24
Data interpretation	Assess ILOs: 13
Oral exam	Assess ILOs: 1,2,3,4,5
Log Book	Assess ILOs: 9,10, 20, 22, 24,25,26
Assignment	Assess ILOs: 23

VI-3 Assessment Schedule

Summative assessment

These tests are usually held at the end of each term. Participation in these assessments is compulsory. The marks do contribute towards the overall assessment.

a. Basic term examination (4th Year):

- Clinical examination: 4 stations OSCE, the examiner is observing while the candidate is examining the patient and the candidate writing physical findings.

- Medical skills level A (procedures), will be assessed via log book.

b. Junior term examination (5th Year):

- Clinical examination: 2 short cases.

c. Senior term:

- Mid-term clinical examination, 4 short stations (OSCE).
- End of the term clinical examination 1 long case and 4 short stations (OSCE).
- Emergency internal medicine: MCQ examination.

Final Examination

The **prerequisite** to sit for the final examination is satisfactory completion of the Clinical and Skills Logbooks, satisfactory attendance in lectures, seminars, and clinical rounds.

There are five components to the final examination:

1. Component 1 - Written paper I
2. Component 2 - Written paper II
3. Component 3 – Objective Structured clinical examination (OSCE), and Objective Structured Long Examination Record (OSLER)
4. Component 4 - Oral examination (Viva)

Tool	Component 5 – Data interpretation testDescription
Written examination	Paper 1 & 2 include problem solving questions, short essays, and 1 long question in each paper. Paper 1 & 2 will include MCQ in the form of false and true questions, single best option MCQs, multiple true and false MCQs, short case with MCQ and extended matched questions.
Clinical examination	<ul style="list-style-type: none"> • 1 long case (Objective Structured Long Examination Record "OSLER") • 6 short cases (objective structured clinical examination "OSCE") each station is supplied with written instructions. There is a set time limit for each station. Each examiner has a structured mark sheet for the case.
Data interpretations	Multi stations (OSCE)
Oral Exam	2 stations, with 2 different examiners

VI-4 Grading system:

Examination		Marks allocated	Total
Term Examination	4 th year	33	180
	5 th year	33	
	6 th year	65	
	Specialties	49	

Final Examination	Written: 1 st paper	180	360
	2 nd paper	180	
	oral	40	
	Data interpretation, skin, venereal, and clinical pathology	140	180
	Clinical	180	180
Total	900		

Recommended Readings and BOOKS for Students:

- **DAVIDSON'S** Principles and Practice of Medicine.
- Clinical Medicine **KUMMAR and CLARK**.
- 1000 MCQs for **DAVIDSON'S** Principles and Practice of Medicine.
- MCQs for Clinical Medicine **KUMMAR and CLARK**.
- **HUTCHISON'S** Clinical Methods.
- Clinical Examination, **MACLEOD, MUNRO**.
- A Guide to Physical Examination, **Barbara Bates**.
- **Handout of lectures**.
- **National books approved by the Internal Medicine Council**.
- **CDs and Floppy disks in the electronic library**.

Cairo University
Faculty of Medicine
Department of General Surgery

Course Specifications (2004-2005)

For fourth, fifth and sixth year medical students.

Allocated marks: total = 900

- 4th year= 20
- 5th year= 30
- 6th year= 130
- Final exam =720

Clinical course duration:

- 4th year: 6 weeks.
- 5th year: 6 weeks.
- 6th year: 16 weeks.

Teaching hours

- 4th year rounds: 6 weeks = 25 days = 50 hours (Clinical and theoretical).
- 5th year rounds: 6 weeks = 25 days = 50 hours (Clinical and theoretical).
- 6th year rounds: 4 months = 100 days = 250 hours (Clinical and theoretical).
- Lectures in general surgery not including specials = 56 hours.
- Special surgery rounds, each = 3 weeks = 17 days = 17 hours per special x 7 specials = 119 hours (Clinical and theoretical).

Course director: Prof. Dr. Samir Abdel-Hamid Galal.

Teaching staff: 87 Professors, 35 Assistant Professors, 29 Lecturers and 34 Assistant Lecturers.

I- AIMS OF THE COURSE:

- To provide the student with the knowledge, and skills which enable him/her to identify, analyze, manage and/or refer clinical surgical problems in order to provide efficient, cost effective and humane patient care.
- To provide the student with an appropriate background covering the common and/ or important surgical emergencies.
- To enable the student to detect cancer at an early stage.
- To enable the development and application of appropriate professional attitudes, ethical principles and communication skills.

II- INTENDED LEARNING OUTCOMES:

1- Knowledge and understanding.

On successful completion of the course, the student should be able to:

- 1- Describe the anatomy of surgically-important regions, organs and structures of the body.
- 2- Describe the etiology, pathogenesis and pathology of important and/ or common surgical diseases.
- 3- Discuss the clinical manifestations, complications, diagnostic modalities, outcome and treatment plans for common and/or important surgical problems, with special emphasis on emergencies and malignancies.
- 4- Explain the methods of screening and early detection of cancer.
- 5- Recognize the ethical principles that govern decision-making in surgical practice.
- 6- Discuss the principles and practice of preoperative preparation and postoperative care.
- 7- Describe the basic steps needed for the conduction of safe anesthesia.
- 8- Outline the physiologic effects of pain and the principles of its management.

2- Professional skills (Clinical and intellectual).

(2.1) Data acquisition:

By the end of the course the student will be able to:

- 9- Obtain, perform and document a complete medical history and physical examination.
- 10- Perform an emergency-directed examination for patients with common surgical emergencies.
- 11- Utilize sources of information like medical records, patient's family/friends to augment medical history.

(2.2) Data analysis and problem solving.

By the end of the course the student will be able to:

- 12- Interpret patient symptoms and physical findings in terms of their anatomic, pathologic and functional diagnostic significances.
- 13- Identify problems, prioritize them, and generate a list of differential diagnosis for each problem.
- 14- Select the most appropriate and cost-effective diagnostic and therapeutic procedure for each problem.
- 15- Interpret the results of commonly used diagnostic procedures.
- 16- Use the results of all the tests ordered to modify the problem list and the differential diagnosis accordingly.
- 17- Combine the clinical and investigational database, with the evidence-based knowledge and the skill of deductive reasoning to be proficient in clinical problem-solving.

(2.3) Skills related to treatment strategies.

By the end of the course the student will be able to:

- 18- Recognize patients with life/organ-threatening surgical conditions and perform appropriate initial therapy.
- 19- Identify and outline management of patients with chronic surgical conditions requiring long-term follow-up, rehabilitation and pain relief.
- 20- Perform routine bedside procedures.
- 21- Apply the principles of sterile techniques and infection control guidelines.
- 22- Achieve consensus with the patient or patient surrogate on the treatment plan selected.
- 23- Monitor the effectiveness of therapy by identifying clinical and investigative parameters to be used in assessing the patient's response to treatment and re-evaluate management plan accordingly.

(3) General skills and attitudes

By the end of the course the student will be able to:

3.1 Communication skills:

- 24- Conduct sincere and effective patient interviews, properly explain their condition and plan of management, obtain consents and convey bad news in a professional way.
- 25- Write patient records and properly present them.
- 26- Communicate, consult and respect the role of other health-care providers.
- 27- Work effectively and cooperatively in a team.

3.2 Life-long learning.

- 28- Formulate a focused clinical question based on real or hypothetical case, search effectively medical literature using electronic resources, retrieve appropriate information and appraise them using the principles of evidence based medicine.

3.3 Ethical behavior.

- 29- Treat the patient as a person, respecting his confidentiality and deliver care in an honest, considerate and compassionate manner.
- 30- Advocate the patient's interests over his own.
- 31- Maintain a professional image, and practice a responsible attitude.
- 32- Outline the ethical principles related to organ donation.
- 33- Discuss professional errors in an honest way.

III- Course contents, methods of teaching, and facilities.

Sixth year course content and number of hours dedicated to each topic							
Topic	Approx. % of total	Approximate # of hours					
		Total	Lectures	Practical/small group.			
				Total	4 th	5 th	6 th

	hours				yr	yr	yr
1- General Surgery			14		20	15	17
2- Plastic surgery			6				12
3- Vascular surgery			5			10	17
4- Head and neck			4				9
5- Endocrine surgery			2		10	5	23
6- Breast			2		10	5	21
7- GIT & abdominal surgery			23		10	15	71
8- Andrology			10				7
9- Radiology			10				7
10- Cardiothoracic			10				7
11- Urology			10				7
12- Orthopedics			10				7
13- Anesthesia			10				7
14-Neurosurgery			10				7
Total			126				219

4 th year course contents and methods	
Topics covered	Clinical and theoretical (List 1)
Duration of teaching	6 weeks = 25 days = 50 hours
Method of teaching	Tutorial classes and clinical rounds
Place	Surgical wards
Percent of total # of students	20% divided on 6 units
Time of the day	9 - 11 am

5 th year course contents and methods of teaching.	
Topics covered	Clinical and theoretical (List 1)
Duration of teaching	6 weeks = 25 days = 50 hours
Method of teaching	Tutorial classes and clinical rounds
Place	Surgical wards
Percent of total # of students	20% divided on 6 units
Time of the day	9 - 11 am

6 th year course contents and methods of teaching.			
Topics covered	Clinical, jars, X-rays (reflecting theoretical topics), anatomy and operative procedures. (Lists 1, 2a, b and c.)	Special surgery. (List 3)	Theoretical lectures.
Duration of teaching	4 months = 100 days = 250 hours		
Method of teaching	Tutorial and Surgical Rounds (*), plus attendance in the ER, OR, and skill labs.	Special Surgery Rounds (including clinical & theoretical).	Lectures
Place	Surgical wards, OPD E.R (**), O.R (***), and skill labs.	Special Surgery wards	Lecture halls

Percent of total # of students	50% divided on 12 units	50% divided on 7 special surgery rounds.	50%
Time of the day	9 - 11:30 am	11:30 - 1pm	1:15 - 2:15 pm

*** Teaching in surgical wards includes:**

- Clinical demonstration.
- Bedside teaching.
- Staff rounds with active participation of students for clinical, ethical and communicational skills.
- Observation of bedside procedures (List 4).
- Problem-solving sessions.
- Seminars.

**** One week rotation during each surgical round. Each student must fulfill attendance of 15 cases and have them documented in a log book.**

***** Each student must attend at least 2 surgical operations and have them documented in the log book.**

Schedule and place of lectures and small group sessions:

- Fifty six general surgery lectures are given on Saturdays, Sundays, Tuesdays and Wednesdays of every week starting the beginning of October to the end of January, then repeated again from the beginning of March to the end of June. They are given in Hall (A) from 1:15 – 2:15 pm. The hall is provided with writing boards, overhead projection, and data-show facilities.
 - Special surgery lectures are given in the special surgery departments during the round from 11:30 – 1 pm.
 - Small groups are given in:
 - The general surgery departments. Twelve departments, each with two teaching rooms with standard equipment. Overhead projection slides and data-show can be performed with prior arrangements.
 - Two outpatient clinics equipped like the surgical wards. Each clinic has one teaching room.
 - Seven special surgery departments equipped as above and each with a single teaching room.
 - ER rotations for 6th year students during the surgical round.
 - Rotatory OR visits for 6th year students.
- General surgery includes: Introduction to surgery; Wounds, wound healing and wound management; Surgical infections; Management of the severely injured and critically ill patient including metabolic response to trauma; Preoperative assessment and postoperative complications of the surgical patient; Hemorrhage, hemorrhagic disorders and blood transfusion; Fluids, electrolytes and acid-base balance; Shock; Burns; Nutrition in surgery; Tumor biology and management; Organ transplantation; Medical problems in the surgical patient including metabolic disorders.
 - Plastic surgery: Introduction; Face, lips and palate; Surgery of nerves; Disorders of muscles, tendons and fascia; Hand infection; Hand injuries.

3. Vascular surgery: Arterial injuries; Acute ischemia; Occlusive arterial disease includes aneurysms; Venous system; Lymphatic system and lymph nodes.
4. Head and neck surgery: Mouth, cheek and tongue; Teeth gums and jaws; Salivary glands and neck; Dysphagia, pharynx and larynx.
5. Endocrine surgery: Thyroid; Parathyroid and Adrenal.
6. Breast surgery.
7. GIT and abdominal surgery: Esophagus; Abdominal trauma; Abdominal wall hernias; Endoscopic and laparoscopic surgery; Acute abdomen; Stomach and duodenum; Liver; Portal hypertension; Biliary system; Pancreas; Spleen, peritoneum, mesentery and omentum; Pediatric surgery and anomalies of the gastrointestinal tract; Appendix; Small intestines; Large intestines (Benign lesions); Larger intestines (Malignant lesions); Rectum; Anal canal; Testis scrotum and inguinoscrotal swellings.

List 1: Clinical cases:

For 4th year:

- History taking and clinical examination.
- Swellings.
- Thyroid.
- Breast.
- Hernia.

For 5th year:

- All the above.
- Ulcers.
- Venous diseases.
- Lymph nodes.
- Abdominal cases.
- Scrotum.

For 6th year:

- 1- Clinical diagnosis of swellings and tumors.
- 2- Common conditions like: cellulitis, abscess, lipomas..etc.
- 3- Ulcers, sinuses, fistulas.
- 4- Lesions of the head, scalp, skull, face, lips, tongue, palate, cheek, jaw and floor of the mouth.
- 5- Parotid swellings.
- 6- Swellings at the side, in the midline, and in the submandibular triangle of the neck.
- 7- Thyroid lesions including physiological, nodular, toxic, malignant, and other lesions.
- 8- Breast lesions including lumps, pain and nipple discharges.
- 9- Axillary swellings.
- 10- Clinical diagnosis of acute abdomen.
- 11- Abdominal swellings including organomegaly and swellings in different quadrants.
- 12- Abdominal pain and dyspepsia (excluding acute abdomen).
- 13- Dysphagia.

- 14-Hematemesis.
- 15-Jaundice of surgical importance.
- 16-Hepatomegaly, splenomegaly.
- 17-History taking in anal and rectal diseases.
- 18-Clinical diagnosis of hernia cases: Inguinal, femoral and umbilical.
- 19-Scrotal and inguinoscrotal swellings.
- 20-History taking and examination of a urological case.
- 21-Clinical examination of a painful limb.
- 22-Peripheral ischemia.
- 23-Gangrene.
- 24-Varicose veins.
- 25-Peripheral nerve injuries.
- 26-Edema of the limbs.
- 27-A swelling in the ends and shaft of long bones.
- 28-A swelling in the popliteal fossa.
- 29-Joint diseases.
- 30-Diseases of the spine.
- 31-Wounds.
- 32-Postoperative patients.

List 2a: List of jars:

1 Intestines

- Ileo-ileal intussusception.
- Viable ileo-ileal intussusception with a polypoid lesion.
- Meckel's diverticulum.
- Colon polyps.
- Perforated peptic ulcer of the stomach.
- Carcinoma of the lower rectum.
- Acute appendicitis.

2 Hepatobiliary

- Chronic calculous cholecystitis.
- Acute calculous cholecystitis with gangrene.
- Multiple liver metastases.
- Normal gall bladder with a mesentery (anatomical variation).
- Chronic calculous cholecystitis with a solitary cholesterol stone.
- Acute calculous cholecystitis with an impacted stone at its neck.

3 Urology

- Hydronephrosis due to pelvi-ureteric junction (PUJ) obstruction.
- Bilharzial cystitis and ureteritis with stricture of lower end of left ureter and hydroureter.
- Hydroureter and hydronephrosis.
- Renal cell carcinoma (hypernephroma).
- Renal tuberculosis.
- Polycystic kidney.
- Carcinoma of the urinary bladder.
- Seminoma of the testis.
- Neglected torsion of the testis that led to gangrene.
- Adenoma of benign prostatic hyperplasia.

- Cancer of the urinary bladder with back pressure effects (bilateral hydroureter).
- Renal cell carcinoma of the lower pole of the kidney.
- Testicular tumor, most probably a seminoma.
- Hydronephrosis.

4 Spleen

- Injured enlarged spleen.
- Multiple tears of the spleen.

5 Chest & Breast

- Aneurysm of the descending thoracic aorta with thrombosis and pressure necrosis of thoracic spine.
- Breast cancer.
- Periosteal fibrosarcoma.

6 Head & Neck

- Carcinoma of the tongue.
- Multinodular goiter.
- Carcinomatous epulis with lymph node spread.

7 Orthopedics

- Giant cell tumor of lower end of femur.
- Periosteal fibroma or fibrosarcoma.
- Osteosarcoma of upper humerus.
- Osteosarcoma of the lower end of femur
- Pott's disease of the spine with cold abscess.

8 Vascular

- Aorto-iliac atherosclerosis.
- Aneurysm with a laminated thrombus.
- Saccular aneurysm.

9 Miscellaneous

- Epithelioma of the back of right hand and wrist.

List 2b: List of Surgical Anatomy Topics:

- The scalp.
- The middle meningeal artery.
- The thyroid.
- The parotid gland.
- The breast.
- Axillary and brachial arteries.
- Radial, median and ulnar nerves.
- Abdominal wall.
- The inguinal canal.

- The stomach.
- The rectum and anal canal.
- The liver.
- The spleen.
- The kidneys.
- The ureters.
- Femoral and popliteal arteries.
- Long and short saphenous veins.
- Sciatic, medial and lateral popliteal nerves.
- Muscles: sternomastoid, deltoid, pectoralis major, latissimus dorsi, rectus abdominis, quadriceps, psoas major.

List 2c: List of operative procedures:

- Principles of coverage of a skin defect.
- Management of compound depressed fracture of the skull.
- Indications and principles of surgical interference in head injuries.
- Thyroidectomy.
- Principles of management of hyperthyroidism.
- Principles of management of carcinoma of the thyroid gland.
- Management of cold abscess of the neck.
- Hand infections.
- C.P.R.
- Complications of a C.V.P. line.
- Management of fracture clavicle.
- Management of a sucking wound of the chest.
- Management of hemothorax.
- Management of pneumothorax.
- Acute lactational mastitis and breast abscess.
- Principles of management of carcinoma of the breast.
- Hernia operations.
- Management of inguinal hernia (technique).
- Management of strangulated inguinal hernia.
- Surgical management of Hydrocele.
- Varicocelelectomy.
- Appendectomy.
- Management of a stab wound in the right hypochondrium.
- Management of rupture spleen.
- Principles of management of adhesive intestinal obstruction.
- Management of bleeding esophageal varices.
- Management of bleeding peptic ulcer.
- Management of perforated duodenal ulcer.
- Management of infantile ileocecal intussusception.
- Principles of management of hemorrhoids.
- Management of acute anal fissure.
- Management of a stone in the left kidney.
- Exposure of the ureter.
- Management of stone ureter.
- Acute urinary retention: causes and treatment.
- Male circumcision.
- Management of fracture shaft femur.
- Management of fracture neck femur.
- Principles of management of arterial injuries.
- Above the knee amputation.

List 3: Special surgery courses:

- Orthopedics.
- Urology.
- Neurosurgery.
- Cardiothoracic surgery.
- Anesthesiology.
- Andrology.
- Radiology.

List 4: Bedside skills:

- IV, IM and SC injections.
- Insertion of IV cannula.
- Insertion of urinary catheter.
- PR/PV examination.
- Insertion of a nasogastric tube.
- Simple skin suturing.

IV- Assessment and evaluation.

A) Grading system:

Grading system		
	Subtotal (marks)	Total (marks)
4 th year		20
5 th year		30
6 th year end of first round examination.	40.5	81
6 th year end of second round examination.	40.5	
Special surgery rounds	7 rounds, each with 7 marks	49
Final Examination		720
Written paper 1	180	
Written paper 2	180	
Long case	90	
2 short cases	90	
Jars	45	
Operative	45	
Anatomy	45	
X-rays	45	
Total		900

- The minimum passing score is 540, provided at least 108 are obtained in the written examination.
- Passing grades are:
 - Excellent if 85% or more.
 - Very good if from 75 to < 85%.
 - Good if from 65 to < 75%.

- Fair if from 60 to < 65%.
- Failed if less than 60%.

B) Attendance criteria:

- The minimum acceptable attendance in the surgical rounds is 75%. Students who fail to attend that percentage of activities will not be allowed to take the end of term examination and the marks allocated for this exam would be recorded as a proportion from the final written score.
- The student is not allowed entry to the special surgery exam if his absence exceeds 9 days.
- Students need to attend at least 60% of the rounds to be able to sit for the final examination.
- The student is expected to present at least 1 seminar, 1 clinical case for the 4th year, 1 clinical case for the 5th year, and 3 clinical cases for 6th year. This attendance should be documented in the student's logbook and countersigned by the tutor giving the class.
- He is required to attend 15 emergency cases, attend 5 staff rounds and 2 operations during his/her 6th year rotation. This attendance should be documented in the student's logbook and countersigned by at least an assistant lecturer.

C) Assessment tools:

Tool	Purpose, assessment of:-	To serve ILO #
Written examination	Knowledge and understanding.	1-8, 12 – 18, 23
Clinical examination (long case).	Clinical and intellectual skills and general skills and attitudes.	9, 12 - 14, 16, 17
Clinical examination (OSCE)	Data acquisition	9, 11, 16
Oral Examination	Knowledge and understanding	1-8
X-ray, anatomy	Knowledge and data analysis	1, 15
Log book:		
1- ER attendance	Data acquisition and skills related to treatment strategies	10, 18, 19
2- Clinical presentation	Skills related to treatment strategies, general skills and attitude	19, 24, 25, 29, 30
3- Staff rounds		18, 19, 22, 23, 24, 26, 30
4- Seminars		27, 28, 32, 33
5- OR attendance		20,

D) Examination description:

- Written exam: 2-day written examination, each for 3 hours and consists of:
 - Short essay questions representing 60% of the mark.
 - Problem-solving questions representing 20% of the mark.
 - MCQ representing 20% of the mark.

- Clinical exam (long case): The student is allowed 20 minutes with the patient during which he is expected to take a history and perform a general and local examination. Then the student will present the case to the examiner who may ask the student to demonstrate specific parts of the examination, interpretation of findings, differential diagnoses, management plan as well as any related surgical knowledge.
- Clinical examination (Objectively Structured Clinical Examination [OSCE]): This would include 6 stations, 4 with patients and 2 with investigations related to the case, and the student is allowed 7 minutes with the patient to perform a local examination and evaluated meanwhile by the examiner. Another station will be an investigation (X-ray, ultrasound, lab result ..etc) that can be related to the case, with an MCQ on this investigation.
- Oral exam :
 - The student is allowed to pick one or more topic for the operative talk and then he is asked by the examiner to present his knowledge in this topic.
 - The student is given a pathology specimen jar(s) and is asked to identify the specimen and asked about the theoretical knowledge related to it.
- X-ray and anatomy: 12 stations (8: X-rays, 4: anatomy). Each station has 5 true or false questions.
- Log book (seminar, clinical cases, emergency cases, staff rounds, and OR attendance).

SUGGESTED REFERENCES:

1. Kasr El-Aini Introduction to Surgery.
2. Bailey and Love's Short Practice of Surgery, 23rd Edition.
3. Current Surgical Diagnosis and Treatment, 11th Edition.
4. Browse NL: An introduction to the Symptoms and Signs of Surgical Disease.
5. Web site for X-Rays and Jars: www.elearning.kasralainy.com

NO MARKS ON ATTENDANCE

List 8: Clinical/small group:		
Topic	Approximate # of hours	% of total hours
H & P	4	2.4
Swellings	3	1.8
Ulcers	3	1.8
Trauma	6	2.4
Face	2	1.2
Lips	2	1.2
Palate	2	1.2
Nerves	4	2.4
Hand	2	1.2
Arteries	5	3
Veins	5	3
Lymphatics	5	3
Mouth	3	1.8
Salivary	5	3
Neck	2	1.2
Thyroid	20	12
Adrenal	2	1.2
Parathyroid	1	0.6
Breast	20	12
Hernia	20	12
HSM/portal hypertension	20	12
Biliary/jaundice	10	6
Appendix	5	3
Testes/scrotum	10	6
Inguinoscrotal swellings	5	3
	166	100